

EXHIBIT C

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

-----X

In re:

Chapter 11
Case No. 14-22503 (RDD)

MPM Silicones, LLC, *et al.*,¹

Debtors.

(Jointly Administered)

-----X

EXPERT REPORT OF DAVID C. SMITH, Ph.D.

¹ The last four digits of the taxpayer identification numbers of the reorganized Debtors follow in parentheses: (i) Juniper Bond Holdings I LLC (9631); (ii) Juniper Bond Holdings II LLC (9692); (iii) Juniper Bond Holdings III LLC (9765); (iv) Juniper Bond Holdings IV LLC (9836); (v) Momentive Performance Materials China SPV Inc. (8469); (vi) Momentive Performance Materials Holdings Inc. (8246); (vii) Momentive Performance Materials Inc. (8297); (viii) Momentive Performance Materials Quartz, Inc. (9929); (ix) Momentive Performance Materials South America Inc. (4895); (x) Momentive Performance Materials USA Inc. (8388); (xi) Momentive Performance Materials Worldwide Inc. (8357); and (xii) MPM Silicones, LLC (5481). The reorganized Debtors' executive headquarters are located at 260 Hudson River Road, Waterford, NY 12188.

Contents

| | | |
|------|---|----|
| I. | Qualifications | 2 |
| II. | Assignment | 3 |
| III. | Summary of Opinions | 4 |
| IV. | Background on MPM Bankruptcy and Financing | 8 |
| V. | Market Efficiency | 13 |
| A. | Definition of Market Efficiency..... | 13 |
| B. | Tests of Market Efficiency..... | 15 |
| C. | Market Efficiency in Equity Markets versus Debt Markets | 16 |
| 1. | Stock Exchanges Exhibit Characteristics that Promote Market Efficiency | 16 |
| 2. | Corporate Bonds Markets Are Characterized by Potential Impediments to Market Efficiency | 18 |
| 3. | Corporate Loan Markets Are Characterized by Potential Impediments to Market Efficiency | 20 |
| VI. | Evaluating Market Efficiency of the Replacement Notes..... | 23 |
| A. | Step 1: Identifying Key Features of the Replacement Notes | 24 |
| B. | Step 2: Attempting to Identify a Reference Market..... | 29 |
| 1. | Attempting to Identify a Set of Instruments Comparable to the Replacement Notes | 30 |
| 2. | The Exit Loans Are Not Comparable Instruments to the Replacement Notes | 31 |
| 3. | The Exit 2L Notes Are Not Comparable to the 1.5L Replacement Notes | 47 |
| 4. | Secondary Market Trading of the Replacement Notes Is Not a Comparable Reference Market | 48 |
| C. | Step 3: Assessing the Efficiency of Certain Markets..... | 49 |
| VII. | Conclusion | 50 |

I. Qualifications

1. I am the Virginia Bankers Association Professor of Commerce at the University of Virginia and Associate Dean for Center Development and Research at the University of Virginia's McIntire School of Commerce. My research includes the areas of securities pricing and portfolio performance, bank lending and corporate credit instruments, distressed debt, corporate restructuring and reorganization, corporate governance, corporate finance, and financial institutions. Appendix A contains my resume and a list of my published articles. Appendix B contains a list of cases in which I offered testimony over the last four years. I have testified as a finance expert in previous cases in which market efficiency was an issue.²

2. I earned a Doctor of Philosophy in Finance from the Kelley School of Business at Indiana University, have presented my research at universities and conferences around the world, and have published in leading academic journals, including the *Journal of Accounting Research*, *Journal of Finance*, *Journal of Financial Economics*, *Journal of Econometrics*, and *Review of Financial Studies*. I have received competitive research grants from the American Bankruptcy Institute, National Bureau of Economic Research, and Research Council of Norway. Prior to joining the McIntire faculty, I was an economist in the International Finance Division of the Federal Reserve Board in Washington, D.C. and, before that, an assistant professor of finance at the Norwegian School of Management in Oslo, Norway.

3. I have a background in the empirical analysis of financial data using statistics. I specialize in corporate finance and valuation with an emphasis on corporate credit and bankruptcy. I have taught undergraduate and graduate level courses in corporate finance,

² *In re Bebo*, No. 3-16293 (SEC 2015); *Stark Master Fund Ltd. v. Credit Suisse Sec. LLC*, No. 2:14-cv-00689 (E.D. Wis. 2017); *United States v. Gibson*, No. 15-23-RGA (D. Del. 2017).

corporate valuation, fixed income, and corporate restructuring, and Ph.D. level courses in empirical asset pricing methodologies, econometrics, and market microstructure. I have also taught corporate credit and restructuring to incoming analyst and associate classes at investment banks in New York.

4. Nearly all of my published research involves the empirical analysis of financial data, across both public and private companies, U.S. companies and non-U.S. companies, and small and large firms. My published research includes analyses of loan agreements and loan disclosures of publicly traded companies.³ I have collected and analyzed data from over 3,700 credit agreements of public corporations, and tracked the impact of more than 3,500 disclosed debt covenant violations on corporate borrower behavior. Recently, I have also studied the debt ownership structure of firms filing for chapter 11.⁴

5. I have served on numerous panels as a credit and distressed debt expert, including for the American Bankruptcy Institute (ABI), American College of Bankruptcy, Mid-Atlantic Bankruptcy Association, Loan Syndication and Trading Association (LSTA), and at various law firms, and have testified before the ABI Bankruptcy Reform Commission on issues related to valuing bankrupt entities.

II. Assignment

6. I have been retained by counsel for Momentive Performance Materials, Inc. (“MPM” or “the Company”) to evaluate market efficiency in the context of MPM’s issuance on October 24, 2014 of \$1.1 billion of 3.88% First-Priority Senior Secured Notes (“1L Replacement

³ G. Nini, D. Smith & A. Sufi, *Creditor Control Rights and Firm Investment Policy*, 92 J. of Fin. Econ. 400-420 (2009); G. Nini, D. Smith & A. Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, 25 Rev. of Fin. Studies 1713 (2012).

⁴ V. Ivashina, B. Iverson, and D. Smith, *The Ownership and Trading of Debt Claims in Chapter 11 Restructurings*, 119 J. of Fin. Econ. 316 (2016).

Notes”) and \$250 million of 4.69% Second-Priority Senior Secured Notes (“1.5L Replacement Notes”), together the “Replacement Notes,” as part of a “cramdown” chapter 11 plan of reorganization. I understand that the United States Court of Appeals for the Second Circuit (the “Second Circuit”) ruled that where “an efficient market may exist that generates an interest rate that is apparently acceptable to sophisticated parties dealing at arms-length, we conclude, consistent with footnote 14 [of *Till*], that such a rate is preferable to a formula improvised by a court,” and instructed the Bankruptcy Court to consider whether an efficient market existed for the Replacement Notes at the time of their issuance.⁵

7. I am being compensated at my standard billing rate of \$725 per hour in connection with this matter. I have been assisted by staff of Cornerstone Research and I supervised all work performed in connection with this Report. I receive compensation from Cornerstone Research based on its collected staff billings for its support of me in this matter. The opinions that I express in this Report are my own. Neither my compensation in this matter nor my compensation from Cornerstone Research is in any way contingent or based upon the content of my opinion or the outcome of this or any other matter.

8. The materials that I have considered as part of this engagement are set forth in Appendix C. My work in this matter is ongoing, and I reserve the right to update my analysis or revise my conclusions if additional documents or information becomes available to me.

III. Summary of Opinions

9. According to financial economists, an efficient financial market exists for a given instrument when the price of the instrument fully reflects all available information. In an

⁵ *In re MPM Silicones, LLC*, 874 F.3d 787, 800-801 (2d Cir. Oct. 20, 2017) (the “Appellate Ruling”) (citing *Till v. SCS Credit Corp.*, 541 U.S. 465 (2004)).

efficient financial market, participants cannot consistently earn economic profits. The structure of a market, the types of participants, and characteristics of the instrument can impede market efficiency by preventing price adjustments to the efficient market price. Because of the potential for these impediments, even in relatively well-developed public financial markets, market efficiency cannot be presumed and must be evaluated on a case-by-case basis.

10. In this matter, I have been asked to assess whether an efficient market would have existed for issuance of the Replacement Notes at the time of MPM's emergence from bankruptcy. Evaluating whether an efficient market exists for a given debt instrument as of its issuance upon emergence from bankruptcy involves the following three steps:

Step 1: Identify the key features of the debt instrument to be issued. These features should capture the risk exposure of the proposed debt instrument.

Step 2: Establish whether a reference market exists that captures the key features of the proposed debt instrument.

Step 3: If a reference market exists, test the market efficiency of the reference market.

11. The first step in evaluating whether an efficient market exists for a given debt instrument issued upon emergence from bankruptcy is to identify the key features of the debt instrument for the purposes of defining its market. Because yields on corporate debt reflect compensation for risks associated with whether the holder will receive interest and principal payments, key features of the debt should reflect these risks. The risks generally fall into the following categories: (1) interest rate risk,⁶ (2) credit risk,⁷ (3) call or prepayment risk,⁸ (4) sector

⁶ Interest rate risk refers to the sensitivity of a debt instrument's price to changes in market interest rates. *See*, R. Dattatreya, et al., *Risks Associated with Investing in Fixed Income Securities*, in *The Handbook of Fixed Income Securities* 22 (8th ed. 2012).

⁷ Credit risk is the risk that the issuer of a debt instrument will fail to make its promised payments. *See, id.* at 25.

risk,⁹ (5) liquidity risk,¹⁰ and (6) other factors.¹¹ Furthermore, the particular context of the issuance of the Replacement Notes—notably, that the notes were claims on a company exiting bankruptcy and that they were corporate bonds and not loans—are important factors for assessing their risk exposure.

12. The second step in evaluating whether an efficient market exists for a given debt instrument issued upon emergence from bankruptcy is to search for a set of debt instruments that have already been issued—the “reference market”—that shares the key features of the instrument to be issued. If such a reference market exists, it can be tested for market efficiency in Step 3. To identify comparable instruments for the Replacement Notes, I searched the set of all U.S. corporate bonds for bonds that matched the key features of the Replacement Notes identified in Step 1.¹² This search produced no bonds comparable to the Replacement Notes. Thus, my search did not yield a reference market that could be tested for efficiency.

13. I also evaluated whether instruments specific to the MPM bankruptcy could serve as a reference market for the Replacement Notes. Specifically, I examined: (a) the commitments to lend under the \$1 billion Senior Secured Exit Term Loan Facility (“Exit Term Loan”) and \$250 million Senior Second Lien Secured Bridge Facility (“Exit 2L Bridge Loan” and, together with the Exit Term Loan, the “Exit Loans”), (b) the \$250 million second lien notes that the

⁸ Call or prepayment risk refers to the risk that bonds will be redeemed or “called” by the issuer prior to maturity. *See, id.* at 24.

⁹ Sector risk refers to a risk that is specific to a particular segment of the market, such as an industry. *See, id.* at 30.

¹⁰ Liquidity risk is the risk that the holder of a bond will not be able to sell quickly and without incurring a high cost. *See, id.* at 27.

¹¹ Other factors include reinvestment risk, volatility risk, inflation risk, currency risk, event risk, and political risk. *See, id.* at 32.

¹² I searched for U.S. corporate bonds that had the following characteristics: (a) fixed coupon rate; (b) maturity of between five and ten years; (c) issued as high-yield bonds; (d) secured with a lien on the issuer’s assets; (e) absence of any call protection; (f) issued by an issuer in the chemicals industry; and (g) issued within a two-year window prior to the October 24, 2014, when the Replacement Notes were issued. In total, there were 19,494 U.S. corporate bond issuances between October 24, 2012 and October 24, 2014.

Company planned to issue upon emergence from bankruptcy (“Exit 2L Notes”) and (c) the traded Replacement Notes themselves. I found that these instruments are not comparable to the Replacement Notes at issuance for the following reasons (as more fully set forth in section VI.B):

- a. As privately negotiated loans, the proposed Exit Loans differ from the Replacement Notes in ways that customarily distinguish loans from bonds. The differences include: (i) differences in the markets in which the Exit Loans and the Replacement Notes would originate and trade; (ii) differences in the contractual terms and protections backing the Exit Loans, as compared to the Replacement Notes, including fixed vs. floating interest rates, flex provision, performance pricing, default rate, call protections, conditions precedent, mandatory prepayments, assignment and participations, lender fees, and amortization; and (iii) the fact that the Exit Loans are closely monitored by the arrangers, unlike the Replacement Notes. Furthermore, certain characteristics of the Exit Loans mean that their prices are not comparable to the Replacement Notes, even setting aside the problematic comparison between loans and bonds. The rates on the Exit Loans were stale by at least six months by the time of MPM’s emergence from bankruptcy, and were commitment rates, meaning that they did not reflect market rates at syndication, rendering the Exit Loans incomparable as a reference market for the Replacement Notes.
- b. The Exit 2L Notes cannot be considered a reference market for the 1.5L Replacement Notes because I understand that the terms of the Exit 2L Notes were indicative only, and the proposed terms of the Exit 2L Notes differed substantially

from the terms of the 1.5L Replacement Notes. Furthermore, the pricing of the Exit 2L Notes was also stale by six months as of the date of the issuance of the Replacement Notes.

- c. The observed yields from the traded Replacement Notes are not comparable for the purpose of determining market efficiency for the Replacement Notes at issuance because the observed yields reflect additional factors stemming from the bankruptcy that are unrelated to the underlying credit risk of the notes. Specifically, these factors comprise expectations regarding the outcome of potential litigation, including the make-whole litigation.

14. The third step in evaluating whether an efficient market exists for a given debt instrument issued upon emergence from bankruptcy is to assess whether the reference market, if one exists, is efficient. Given that my search for a reference market yielded no other instruments that share the key features of the Replacement Notes, there are no instruments to test for efficiency. Therefore, no efficient market existed for the Replacement Notes at the time of their issuance.

IV. Background on MPM Bankruptcy and Financing

15. MPM, a Delaware corporation, is “one of the world’s largest producers of silicones and silicone derivatives and a global leader in the development and manufacture of products derived from quartz and specialty ceramics.”¹³ Dating back to at least 2011, slow global economic growth and overcapacity in its industry squeezed MPM’s profit margins and

¹³ Momentive Performance Materials Inc., 2014 Annual Report (Form 10-K), 3 (Mar. 30, 2015).

jeopardized the Company's ability to meet its debt requirements.¹⁴ By the end of 2013, the Company was levered 16 times EBITDA, paying nearly \$300 million in interest annually, and cash flow negative.¹⁵ MPM and certain affiliated debtors filed for chapter 11 protection on April 13, 2014 (the "Chapter 11 Cases") in the United States Bankruptcy Court for the Southern District of New York (the "Bankruptcy Court").¹⁶

16. As of the commencement of the Chapter 11 Cases, MPM's debt included a commitment of up to \$270 million under an asset-based credit facility, a commitment of up to \$75 million under a revolving cash flow facility, \$1.1 billion of 8.875% First-Priority Senior Secured Notes due 2020 ("Prepetition 1L Notes"), \$250 million of 10% Senior Secured Notes due 2020 ("Prepetition 1.5L Notes"), \$1.161 billion of 9% Second-Priority Springing Lien Notes due 2021 and €133 million of 9.5% Second-Priority Springing Lien Notes due 2021 (together, "Prepetition 2L Notes"), \$382 million of 11.5% of Senior Subordinated Notes due 2016 ("Subordinated Notes"), and \$854 million outstanding in pay-in-kind 11% Senior Discount Notes due 2017.¹⁷

17. During February 2014, prior to commencing the Chapter 11 Cases, MPM instructed its financial advisor, Moelis & Company ("Moelis") to reach out to potential lenders for proposals to provide debtor-in-possession ("DIP") financing in connection with a possible

¹⁴ Decl. of William Q. Derrough In Supp. of Debtors' Mot. For Interim and Final Orders Under 11 U.S.C. §§ 105, 361, 362, 363(c), 363(d), 364(c), 364(d), 364(e) and 507 and Fed. R. Bankr. P. 2002, 4001 and 9014: (I) Authorizing the Debtors to Obtain Postpetition Financing; (II) Authorizing the Debtors to Use Cash Collateral; (III) Granting Adequate Protection to Prepetition Secured Lenders; and (IV) Scheduling a Final Hearing Pursuant to Bankruptcy Rules 2002, 4001 and 9014, dated Apr. 13, 2014 [ECF No. 14] ¶ 10 (the "Apr. 13 Derrough Declaration"); Decl. of William H. Carter, Chief Financial Officer of Momentive Performance Materials Inc., in Support of Chapter 11 Petitions and First Day Pleadings, dated Apr. 13, 2014 [ECF No. 16], ¶ 57 (the "First Day Declaration"). Unless otherwise indicated herein, all docket citations shall refer to the main bankruptcy cases of MPM Silicones, LLC and its affiliated debtors, No. 14-22503.

¹⁵ First Day Decl. ¶ 58.

¹⁶ First Day Decl. ¶ 2.

¹⁷ First Day Decl. ¶¶ 48-55.

chapter 11 filing.¹⁸ In particular, MPM sought proposals that would combine an offer to provide DIP financing with commitments to provide “exit” debt financing following the consummation of MPM’s bankruptcy.¹⁹

18. In commitment and fee letters dated April 3, 2014, JP Morgan Chase Bank, N.A. (“JP Morgan”), Citigroup Global Markets Inc. (“Citigroup”), and Credit Suisse Securities (USA) LLC (“Credit Suisse”) agreed to provide both DIP and exit financing to MPM. The DIP financing consisted of a \$270 million asset-based revolving loan (“DIP ABL”) and a \$300 million term loan (“DIP Term Loan”).²⁰ The April 3, 2014 letters also included commitments, subject to certain conditions including successful consummation of a chapter 11 reorganization, to provide the Exit Term Loan and a \$270 million asset-based revolving loan (the “Exit ABL”) to replace the DIP ABL.²¹

19. The same three lenders also agreed to assist in the offering of second lien secured notes with a principal amount of \$250 million (i.e., the Exit 2L Notes) upon MPM’s emergence from bankruptcy.²² The lenders submitted to Moelis suggested terms on second lien facilities,

¹⁸ Disclosure Statement For Joint Chapter 11 Plan of Reorganization For Momentive Performance Materials Inc. and Its Affiliated Debtors, dated June 23, 2014 [ECF No. 516], at 29 (the “Disclosure Statement”).

¹⁹ “[T]he DIP Lenders were willing to provide an up-front commitment to fund two exit facilities for the Debtors, which will be needed in order [to] consummate a chapter 11 plan. This was a critical factor in the Debtors’ consideration.” *See*, Apr. 13 Derrough Decl. ¶ 16.

²⁰ Disclosure Statement, at 29; \$270,000,000 Senior Secured DIP and Exit Asset-Based Revolving Facility, \$300,000,000 Senior Secured DIP Term Loan Facility, and \$1,000,000,000 Senior Secured Exit Term Loan Facility Commitment Letter, dated April 3, 2014, MPM1C_WFG_00032373-441 (the “Apr. 3, 2014 Commitment Letter”); \$270,000,000 Senior Secured DIP and Exit Asset-Based Revolving Facility, \$300,000,000 Senior Secured DIP Term Loan Facility, and \$1,000,000,000 Senior Secured Exit Term Loan Facility Fee Letter, dated April 3, 2014, MPM1C_WFG_00032442-452 (the “Apr. 3, 2014 Fee Letter”).

²¹ Disclosure Statement, at 29; Apr. 3, 2014 Commitment Letter, at 408, 437.

²² Decl. of William Q. Derrough In Supp. of Debtors’ Mot. For An Order Authorizing The Debtors To (A) Enter Into A Bridge Facility Commitment Letter And Related Commitment Documents, (B) Enter Into An Engagement Letter Related To A Second Lien Notes Offering, and (C) Pay Fees, Costs and Expenses In Connection Therewith, dated July 3, 2014 [ECF No. 606] ¶¶ 9-10 (the “July 3 Derrough Declaration”).

including the Exit 2L Notes or alternative term loans, on April 25 and 26, 2014.²³ To ensure financing, on June 13, 2014 Moelis also secured a commitment from the same lenders to fund the Exit 2L Bridge Loan for \$250 million.²⁴

20. The commitment letters contained summaries of the “principal terms and conditions” for each of the DIP and exit facilities.²⁵ According to the commitment letters, the Exit ABL would fund MPM’s post-bankruptcy working capital requirements, cover the Company’s fees and expenses, and be available for general corporate purposes.²⁶ The Exit Term Loan would be used to repay amounts outstanding under the DIP ABL and DIP Term Loan, to pay amounts due under the Prepetition 1L Notes, to fund working capital needs, to cover the Company’s fees and expenses, and for general corporate purposes.²⁷ The purpose of the Exit 2L Notes and Exit 2L Bridge Loan was to repay amounts and costs associated with the Prepetition 1.5L Notes.²⁸ The Exit 2L Bridge Loan would be drawn only if the Company proved unable to issue the Exit 2L Notes.²⁹

21. On June 23, 2014, MPM submitted a plan of reorganization (as amended, the “Plan”) and related Disclosure Statement for solicitation.³⁰ Under the Plan, if either of the classes comprising holders of the Prepetition 1L Notes and Prepetition 1.5L Notes voted to accept the Plan, holders in such class would receive cash distributions equal to the principal

²³ Moelis correspondence, MPMR_AGSHF_0053466-471, at 468-71. The company opted not to pursue the second lien term loan alternative. *See* \$250,000,000 Senior Second Lien Secured Bridge Facility Commitment Letter dated June 13, 2014, MPMR_AGSHF_0004712-748 (the “June 13, 2014 Commitment Letter”), at 712-713. *See also*, Deposition of Zul Jamal, May 22, 2018 285:3-17 (the “Jamal 2018 Deposition”).

²⁴ *See* June 13, 2014 Commitment Letter, at 730-748; \$250,000,000 Senior Second Lien Secured Bridge Facility Fee Letter, dated June 13, 2014, MPMR_AGSHF_0004749-760 (the “June 13, 2014 Fee Letter”).

²⁵ Apr. 3, 2014 Commitment Letter, at 390-441; June 13, 2014 Commitment Letter, at 730-748.

²⁶ Apr. 3, 2014 Commitment Letter, at 394-395.

²⁷ Apr. 3, 2014 Commitment Letter, at 432-433.

²⁸ June 13, 2014 Commitment Letter, at 731; July 3 Derrough Decl. ¶ 10.

²⁹ July 3 Derrough Decl. ¶ 10.

³⁰ Joint Chapter 11 Plan of Reorganization for Momentive Performance Materials Inc. and its Affiliated Debtors, dated June 23, 2014 [ECF No. 515]; Disclosure Statement.

amount and accrued interest on the prepetition notes, excluding any “make-whole” claim.³¹ By contrast, if either such class rejected the Plan, holders in such class would receive replacement notes with a present value equal to the principal amount and accrued interest on the prepetition notes, and to the extent allowed by the Bankruptcy Court, such holders’ make-whole claims.³²

22. Votes on the Plan were tabulated during July and early August 2014.³³ The classes representing the Prepetition 1L Notes and Prepetition 1.5L Notes both voted to reject the Plan, electing to pursue the payment of an additional make-whole premium.³⁴ The Bankruptcy Court confirmed the Plan over the objections of the dissenting classes on August 26, 2014.³⁵ Under the confirmed Plan, holders of the Prepetition 1L Notes and the Prepetition 1.5L Notes were allocated the 1L Replacement Notes and 1.5L Replacement Notes, respectively, in respect of their claims. The coupon rates on the Replacement Notes were set by the Bankruptcy Court at 3.88% on the 1L Replacement Notes and 4.69% on the 1.5L Replacement Notes.³⁶ The indenture trustees for both the Prepetition 1L Notes and the Prepetition 1.5L Notes appealed the Bankruptcy Court’s confirmation of the Plan with respect to both the make-whole and cramdown interest rate determinations.³⁷

³¹ Disclosure Statement, at 38-39. A class affirmatively accepts the Plan if more than two-thirds by amount and more than one-half by number of the class votes in favor of the Plan; otherwise, the class is considered to reject the Plan. *See*, Disclosure Statement, at 42.

³² Disclosure Statement, at 38-39.

³³ Findings of Fact, Conclusions of Law And Order (I) Confirming Joint Chapter 11 Plan Of Reorganization For Momentive Performance Materials Inc. and Its Affiliated Debtors; And (II) Adjudicating Certain Adversary Proceedings, dated Sept. 11, 2014 [ECF No. 1001], at 4 (“Confirmation Order”).

³⁴ The class of holders of Subordinated Notes also rejected the Plan, arguing that they were not subordinate to the holders of the Prepetition 2L Notes; holders of the Prepetition 2L Notes unanimously voted to accept the plan and thereby received partial recovery on their notes in the form of equity in the post-bankruptcy company. *See*, Appellate Ruling, at 792-93.

³⁵ The Court’s written ruling was filed on September 9, 2014. *See*, Confirmation Order, at 3.

³⁶ \$1,100,000,000 3.88% First-Priority Senior Secured Notes due 2021 Indenture dated Oct. 24, 2014, at 1 (the “1L Replacement Notes Indenture”); \$250,000,000 4.69% Second-Priority Senior Secured Notes due 2022 Indenture dated Oct. 24, 2014, at 1 (the “1.5L Replacement Notes Indenture”).

³⁷ Appellate Ruling, at *793.

23. The Replacement Notes were issued upon MPM's emergence from chapter 11 on October 24, 2014 (the "Effective Date").³⁸ Because the holders of the Prepetition 1L Notes and Prepetition 1.5L Notes rejected the Plan's cash offer, the debtors elected to cancel the commitments to raise exit financing through the Exit Term Loan and Exit 2L Bridge Loan or Exit 2L Notes.³⁹ Other than the Replacement Notes, the only portion of the exit financing to be executed and funded was the Exit ABL.⁴⁰

24. I understand that holders of the Replacement Notes contend that the coupon rates on the Replacement Notes are too low and thus "fail[] to give them the present value of their claim."⁴¹ Furthermore, I understand that the Second Circuit has instructed the Bankruptcy Court to "ascertain if an efficient market rate exists [for the Replacement Notes] and, if so, apply that rate, instead of the formula rate."⁴²

V. Market Efficiency

25. In this section, I discuss market efficiency, using the definition that is widely accepted by financial economists and adopted by courts. I also outline tests of market efficiency and discuss market efficiency in the context of equity versus debt markets.

A. Definition of Market Efficiency

26. Financial economists define an efficient financial market as a market in which "prices at any time 'fully reflect' all available information."⁴³ A core tenet of market efficiency

³⁸ Press Release, Momentive Performance Materials Inc., Silicones and Quartz Producer Momentive Performance Materials Inc., Completes Balance Sheet Restructuring and Emerges From Chapter 11 (Oct. 24, 2014); 1L Replacement Notes Indenture, at 1; 1.5L Replacement Notes Indenture, at 1.

³⁹ Jamal 2018 Dep. 157:17–158:7, 211:16–20.

⁴⁰ MPM 2014 Form 10-K, at 66.

⁴¹ Appellate Ruling, at *793.

⁴² Appellate Ruling, at *801.

⁴³ E. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. of Fin. 383, 383 (1970). In this seminal paper that has been adopted broadly by financial economists, Fama explains that in a "weak form"

is that competition among financial market participants—including capital providers, issuers, buyers, and sellers—pushes the price of a financial instrument to reflect all public relevant information about the value of the instrument.⁴⁴

27. It is my understanding that many federal and state courts have adopted this core tenet of market efficiency for purposes of, among other things, evaluating reliance arguments in SEC enforcement actions and federal securities litigation,⁴⁵ and assessing fair market value calculations in state court appraisal proceedings.⁴⁶

28. When a market for a particular instrument is efficient, it is impossible for a buyer, seller, capital provider, or issuer to earn consistent economic profits based on information available to the market.⁴⁷ “Economic profits” are any profits from holding or trading an instrument that are earned above an amount required to compensate for risk and cover transactions costs.⁴⁸

29. The structure of the market, the types of participants, and characteristics of the instrument can impede market efficiency by preventing price adjustments to the efficient market price.⁴⁹ Examples of such impediments include inadequate information disclosure and

efficient market, prices reflect only information on past prices (or past price changes), and not other public or private information about a company. In a “semi-strong form efficient market,” prices reflect all publicly available information, including all past prices, as well as all information disclosed publicly about the security, including through regulatory filings, press releases, newspaper articles, earnings announcements, and publicly disclosed regulatory actions. A “strong form” efficient market reflects all publicly available information relevant to the value of the security, as well as all private information about the security that investors might have, including “insider” information about future financial performance and events that have not yet been disclosed to the public. *See, id.*

⁴⁴ *Id.*, at 390.

⁴⁵ *See, e.g., Basic, Inc. v. Levinson*, 485 U.S. 224 (1988); *Cammer v. Bloom*, 711 F. Supp. 1264 (D.N.J. 1989); *In re IPO Sec. Litig.*, 471 F.3d 24 (2d Cir. 2006).

⁴⁶ *See, e.g., Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd.*, 177 A.3d 1 (Del. Sup. Ct. 2017).

⁴⁷ “A market is efficient with respect to information set θ_t if it is impossible to make economic profits by trading on the basis of information set θ_t .” *See, M. Jensen, Some Anomalous Evidence Regarding Market Efficiency*, 6 J. of Fin. Econ. 95, 96 (1978).

⁴⁸ *See, id.*

⁴⁹ A. Shleifer, *Inefficient Markets* 10 (2000).

transparency,⁵⁰ constraints on trading,⁵¹ the absence of willing market participants,⁵² and large differences in information among market participants.⁵³ Markets are less likely to be efficient when such impediments exist. The additional uncertainty that surrounds a bankruptcy process and a firm in financial distress may present further impediments to market efficiency. This uncertainty has been linked to less information dissemination about the company by market participants during bankruptcy and to differences in company valuations conducted by different claimants.⁵⁴

B. Tests of Market Efficiency

30. Academic tests of market efficiency examine the speed at which the price of a financial instrument reacts to disclosures of new information, whether the price of a financial instrument fully reflects all relevant information, or whether “mispricing” (that is, the difference between the current price of an instrument and its efficient market price) allows market participants to earn consistent economic profits by trading the instrument.⁵⁵ If a market is efficient, prices will react quickly and in a direction consistent with new information that is relevant to the instrument’s future cash flows, closing off the opportunity to earn consistent economic profits from trading. By contrast, a delayed price reaction to new, value-relevant

⁵⁰ Transparency typically “refers to how much information market participants (and potential participants) possess about the trading process.” See, J. Hasbrouck, *Empirical Market Microstructure: The Institutions, Economics, and Econometrics of Securities Trading* 6 (2007); I. Goldstein & L. Yang, *Information Disclosure in Financial Markets*, 9 *Annual Rev. of Fin. Econ.* 101 (2017).

⁵¹ A. Shleifer & R. Vishny, *The Limits of Arbitrage*, 52 *J. of Fin.* 35 (1997); P. Saffi & K. Sigurdsson, *Price Efficiency and Short Selling*, 24 *Rev. of Fin. Studies* 821 (2011).

⁵² A. Shleifer & R. Vishny, *Fire Sales in Finance and Macroeconomics*, 25 *J. of Econ. Perspectives* 29, 48 (2011).

⁵³ H. Hong & J. Stein, *Disagreement and the Stock Market*, 21 *J. of Econ. Perspectives* 109 (2007).

⁵⁴ S. Gilson, et al., *Valuation of Bankrupt Firms*, 13 *Rev. of Fin. Studies*, 43 (2000).

⁵⁵ Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*; Jensen.

information is indicative of market inefficiency,⁵⁶ as is a demonstrated ability to earn consistent economic profits.⁵⁷

C. Market Efficiency in Equity Markets versus Debt Markets

31. Compared to stock markets, corporate bond and loan markets tend to exhibit many more impediments to market efficiency.

1. Stock Exchanges Exhibit Characteristics that Promote Market Efficiency

32. Publicly listed stocks in the U.S. generally trade in markets organized and regulated to promote liquidity, transparency, and competitive pricing.⁵⁸ Stocks typically trade on organized exchanges in which designated market makers (or dealers) are ready to buy and sell at their quoted prices, or at prices that are more favorable to their customers.⁵⁹ Trading is highly transparent to market participants and data on quotes and trades is widely and freely disseminated through real-time data feeds.⁶⁰ U.S. listed stocks are also subject to regulation under the Securities Act of 1933 and the Securities Exchange Act of 1934.⁶¹ Issuers are required to register with the SEC, and to make specific and ongoing disclosures as to their operations and financial performance.⁶²

⁵⁶ P. Tetlock, *All the News That's Fit to Reprint: Do Investors React to Stale Information?*, 24 Rev. of Fin. Studies 1481 (2011); G. Huberman & T. Regev, *Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar*, 56 J. of Fin. 387 (2001).

⁵⁷ N. Chopra et al., *Measuring Abnormal Performance: Do Stocks Overreact?*, 31 J. of Fin. Econ. 235 (1992); N. Jegadeesh & S. Titman, *Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency*, 48 J. of Fin. 65 (1993).

⁵⁸ J. Clayton, *Remarks at the Equity Market Structure Symposium Sponsored by the University of Chicago and the STA Foundation*, SEC (Apr. 10, 2018), <https://www.sec.gov/news/speech/speech-clayton-2018-04-10>.

⁵⁹ Hasbrouck, at 173, 177-178. Market makers are often compensated based on their ability to provide liquidity at competitive prices. See, e.g., *CBOE EDGX U.S. Equities Exchange Fee Schedule*, CBOE Global Mkts., Inc. (May 1, 2018), https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/.

⁶⁰ Hasbrouck, at 12.

⁶¹ *Registration under the Securities Act of 1933*, SEC (Sept. 2, 2011), <https://www.sec.gov/fast-answers/answersregis33htm.html>.

⁶² *The Laws That Govern the Securities Industry*, SEC (Oct. 1, 2013), <https://www.sec.gov/answers/about-lawsshtml.html#secexact1934>. Exchange rules and market regulations also typically require that customers receive

33. Market impediments to trading many U.S. stocks tend to be relatively low, but impediments can exist, even for stocks traded on major exchanges.⁶³ Moreover, while evidence from the academic literature often demonstrates that stocks on U.S. exchanges trade in efficient markets, the literature has documented certain departures from market efficiency, even for publicly traded stocks of large companies.⁶⁴

34. Researchers have found particular anomalies in the market for issuance of new stock through initial public offerings (“IPOs”).⁶⁵ For periods of time following an IPO, firms are prohibited from issuing forward-looking statements and analysts do not issue reports on the new stock (during a “quiet period”),⁶⁶ while company insiders and pre-IPO shareholders are prohibited from selling their shares (during a “lockup period”).⁶⁷ Studies have shown that after the expiration of quiet and lockup periods, returns on IPO stocks tend to be predictable, which is inconsistent with market efficiency.^{68,69} I understand that some courts have concluded that market efficiency cannot be presumed following stock IPOs.⁷⁰

the “best execution” price in the market, ensuring that stocks are traded at the best and most current quotes. *See, Best Execution*, SEC (May 9, 2011), <https://www.sec.gov/fast-answers/answersbestexhtm.html>. Further, stock exchange trading is monitored for evidence of market manipulation and insider trading, helping to ensure that market prices reflect fundamental value and not the views of subsets of investors who may possess private information. *See, Equity Market Surveillance Today and the Path Ahead*, FINRA (Sept. 20, 2017), <https://www.finra.org/newsroom/speeches/092017-equity-market-surveillance-today-and-path-ahead>.

⁶³ Examples of such impediments include short sales constraints, meaning investors cannot fully correct market mispricing by taking “short” positions on a stock, as well as illiquidity, and capital constraints that influence market participants’ ability to execute their desired trades. *See*, Saffi & Sigurdsson, at 821-852; T. Chordia et al., *Liquidity and Market Efficiency*, 87 J. of Fin. Econ. 249 (2008); Shleifer & Vishny, *The Limits of Arbitrage*, at 35-55.

⁶⁴ Examples of inefficiencies in large equity markets include evidence that some stocks fail to react to new information quickly, that is, “stale” news can still affect stock prices; slow incorporation of news into prices; and so-called pricing “anomalies,” in which a security’s trading prices differ from what would be expected in efficient markets—for example, the same security trading at different prices on different trading venues, or two securities with an equivalent claim on the cash flows of the underlying company trading at different prices, violating the law of one price. *See*, Huberman & Regev, at 387–396; Tetlock, at 1481-1512; O. Lamont & R. Thaler, *Anomalies: The Law of One Price in Financial Markets*, 17 J. of Econ. Perspectives 191, 195–196 (2003).

⁶⁵ J. Ritter, *The Long-Run Performance of Initial Public Offerings*, 46 J. of Fin. 3 (1991).

⁶⁶ D. Bradley et al., *The Quiet Period Goes Out with a Bang*, 58 J. of Fin. 1, 1 (2003).

⁶⁷ L. Field & G. Hanka, *The Expiration of IPO Share Lockups*, 56 J. of Fin. 471, 471 (2001).

⁶⁸ *See*, Bradley et al., at 1-36.

2. Corporate Bonds Markets Are Characterized by Potential Impediments to Market Efficiency

35. Compared to U.S. stock markets, U.S. corporate bond markets are relatively illiquid, less transparent, and have fewer safeguards to promote competitive pricing.⁷¹ Corporate bonds can be SEC-registered public instruments, classified by the SEC as “securities” and subject to SEC registration and disclosure requirements.⁷² Corporate bonds can also be private instruments, including those placed through so-called “144A” offerings made only to qualified investment buyers (“QIBs”).⁷³ As of the first quarter of 2014, public bonds constituted roughly 70% of trading volume in high-yield corporate bonds, while the remaining 30% came from 144A offerings.^{74,75}

36. Most U.S. corporate bonds trade “over the counter” (“OTC”), rather than on organized exchanges.⁷⁶ OTC trading is decentralized; multiple dealers and brokers might trade a bond, but only through bilateral negotiations on behalf of their customers or themselves.⁷⁷ There

⁶⁹ Since the IPO issuances are widely known in advance, their occurrence should be anticipated by investors and reflected in trading prices in an efficient market. Thus, returns after the occurrence of these events should be random (and not predictable) in an efficient market. Predictable returns can imply the ability to earn consistent economic profits since an investor can trade now based on the predicted direction of the return in the future. *See*, Field & Hanka.

⁷⁰ *In re IPO Sec. Litig.*, 471 F.3d 24 (2d Cir. 2006).

⁷¹ H. Bessembinder & W. Maxwell, *Markets: Transparency and the Corporate Bond Market*, 22 J. of Econ. Perspectives 217, 221-222 (2008); D. Gallagher, *Remarks Regarding the Fixed Income Markets at the Conference on Financial Markets Quality*, SEC (Sept. 19, 2012), <https://www.sec.gov/news/speech/2012-spch091912dmghtm>.

⁷² *Registration under the Securities Act of 1933*, SEC (Sept. 2, 2011), <https://www.sec.gov/fast-answers/answersregis33htm.html>.

⁷³ *Fact Sheet: Eliminating the Prohibition on General Solicitation and General Advertising in Certain Offerings*, SEC (July 2, 2013), <https://www.sec.gov/opa/press-release-2012-170-related-materials>; Z. Bodie, et al., *Investments* 60 (10th ed. 2013).

⁷⁴ *FINRA Brings 144A Corporate Debt Transactions into the Light*, FINRA (June 30, 2014), <http://www.finra.org/newsroom/2014/finra-brings-144a-corporate-debt-transactions-light>.

⁷⁵ “Corporate bonds tend to be categorized as either investment grade or non-investment grade. Non-investment grade bonds are also referred to as ‘high yield’ bonds because they tend to pay higher yields than Treasuries and investment-grade corporate bonds.” *See, e.g., Corporate Bonds*, FINRA (last visited June 11, 2018), <http://www.finra.org/investors/corporate-bonds>. Bonds rated Baa and above by Moody’s or BBB and above by S&P are typically considered investment grade. *See*, Bodie et al., at G-7.

⁷⁶ Bessembinder & Maxwell, at 221.

⁷⁷ Bodie et al., at 73-74.

is no central “book” or clearinghouse through which corporate bond dealers compete for trading business. Moreover, unlike stock exchange market makers, OTC bond dealers are not required to transact at their stated price quotes, or to provide price quotes at all.⁷⁸ Such practices tend to reduce both the transparency and liquidity of corporate bond markets.

37. Dealer bond quotes are not publicly reported, further reducing transparency.⁷⁹ While “indicative” quotes are available via Bloomberg or other data vendors, these generally “serve as an indication of the desire to trade, not a firm obligation on price and quantity.”⁸⁰ Bond transaction prices are typically publicly observable *after a trade occurs* through the Trade Reporting and Compliance Engine (“TRACE”).⁸¹

38. Relative to stocks, corporate bonds trade less frequently.⁸² Studies show that, due to the illiquidity of corporate bond markets, investors often demand a “liquidity premium” when trading corporate bonds. For high-yield bonds, this additional premium can average 0.58% to 1.97% per year.⁸³ Further, recent evidence indicates that selling pressure by large traders may push prices away from full-information prices, diminishing the efficiency of the market when groups of large traders attempt to sell at the same time.⁸⁴

39. Similar to stock IPOs, corporate bonds tend to be underpriced (e.g., priced lower than suggested by a benchmark) at issuance, indicating a propensity for market inefficiency

⁷⁸ Bessembinder & Maxwell, at 222-223.

⁷⁹ *Id.* at 222.

⁸⁰ *Id.* at 223.

⁸¹ *Id.* at 218.

⁸² Bessembinder et al. (2018) report annual bond turnover of 62% in 2015. Dick-Nielsen et al. (2012) show that the median bond in their sample does not trade on 60.7 percent of trading days. *See*, H. Bessembinder et al., *Capital Commitment and Illiquidity in Corporate Bonds*, J. of Fin., forthcoming, 1, 14 (2018); J. Dick-Nielsen et al., *Corporate Bond Liquidity Before and After the Onset of the Subprime Crisis*, 103 J. of Fin. Econ. 471, 474-475 (2012).

⁸³ J. Dick-Nielsen et al., at 478-479.

⁸⁴ P. Feldhütter, *The Same Bond at Different Prices: Identifying Search Frictions and Selling Pressures*, 25 Rev. of Fin. Studies 1155-1206 (2012).

following issuance.⁸⁵ This underpricing in new bond issuances implies that yields are higher at issuance than the yield would be if the market were efficient. High-yield bond issuances tend to experience greater underpricing than investment grade bonds, and riskier high-yield bonds, such as issuances by private firms, tend to have a greater degree of underpricing than do bonds from lower risk firms.⁸⁶

3. Corporate Loan Markets Are Characterized by Potential Impediments to Market Efficiency

40. Corporate loan markets in which investors buy and sell ownership or participation rights in syndicated loans also exhibit potential impediments to market efficiency.⁸⁷ Loan markets are less regulated and more opaque than corporate bond markets. Moreover, the structure of loan syndicates can create large information asymmetries (or large differences in information) between market participants with inside knowledge of a borrower—such as lead arrangers that have had an ongoing relationship with the borrower—and participants with only public information.

41. Loans are not publicly registered SEC securities. Participants in the market for loans are generally exempt from laws and regulations related to the issuance, disclosure, and trading of securities.⁸⁸ Like bonds, loans trade OTC.⁸⁹ As with bonds, loan dealers are under no

⁸⁵ Cai, Helwege, and Warga (2007) define underpricing in the corporate bond market as the difference between the initial return on a bond and the return on a bond index of comparable maturity and credit quality during the same period. N. Cai et al., *Underpricing in the Corporate Bond Market*, 20 Rev. of Fin. Studies 2021, 2021, 2025-2026 (2007).

⁸⁶ *Id.*, at 2022.

⁸⁷ “A syndicated loan is a single loan with a single set of terms, but multiple lenders, each providing a portion of the funds.” See, S. Antczak, et al., *Leveraged Loans*, in *The Handbook of Fixed Income Securities* 290 (8th ed. 2012).

⁸⁸ T. Bason, et al., *Effects of the Legal Characterization of Loans under the Securities Laws*, in *The Handbook of Loan Syndication & Trading* 87 (1st ed. 2007). In addition, the authors state “LOANS ARE NOT SECURITIES! You will read that many times throughout this Handbook. As a result, there is no regulatory authority that oversees and sets standards on how loans are sold and traded throughout the financial market.” See, A. Taylor, *Preface*, in *The Handbook of Loan Syndication & Trading*, xvi (1st ed. 2007).

⁸⁹ F. Fabozzi et al., *Active Loan Trading*, at 2 (2018) (Working Paper).

obligation to offer quotes on any particular loan, or trade at prices that they quote for a particular loan.⁹⁰ Meanwhile, the availability of publicly observable quote and transaction data in the loan market is more limited than the bond market. Daily mark-to-market quotes are available only on a subset of outstanding loans through a few select sources and, unlike the TRACE system for corporate bonds, no mechanism exists in the loan market for publicly disclosing trade prices.⁹¹ This lack of regulation and transparency in loan markets serves to increase the potential impediments to market efficiency.

42. Loans appear to trade relatively infrequently, although because loan trade data is so difficult to observe, few academic studies exist that explore loan liquidity. Compared to bond indentures, loan credit agreements are less standardized and more subject to negotiation, making loans inherently more difficult to trade as a commoditized product.⁹² Moreover, corporate loan trades typically take longer than bonds to “settle”—that is, for cash to be exchanged for ownership—following a trade, which increases the liquidity risks to participants trading loans compared to bonds. For instance, during 2017, the median loan settled 13 days after its trade and 30% of loan trades took more than 20 days to settle.⁹³ By comparison, corporate bonds generally clear within two days of the trade date.⁹⁴

43. Loan originations are concentrated among a small set of large banks that act as “lead arrangers.” For instance, five banks accounted for more than 38% of all “lead arranger”

⁹⁰ M. Coffey, et al. *The Secondary Loan Market*, The Handbook of Loan Syndications & Trading, 403 (1st ed. 2007).

⁹¹ F. Fabozzi et al., *Active Loan Trading*.

⁹² B. Bobrow, et al., *The Primary Market*, in The Handbook of Loan Syndications & Trading 157 (1st ed. 2007).

⁹³ *2017 Secondary Trading & Settlement Summary: A Record Year for Trading*, Loan Syndications & Trad. Ass’n (Jan. 30, 2018), <https://www.lsta.org/news-and-resources/news/2017-secondary-trading-and-settlement-summary-a-record-year-for-trading>.

⁹⁴ *SEC Shortens Settlement Cycle for Securities Trades*, Reuters (Mar. 22, 2017), <https://www.reuters.com/article/us-usa-sec-settlement-idUSKBN16T1SW>.

assignments on all U.S. leveraged loans originated during 2017.⁹⁵ Lead arrangers originate the loans, build the syndicate, take large positions in the loans themselves, and often have a relationship with the borrower that extends back in time, which provides the arranging bank with deep knowledge about the borrower.⁹⁶

44. The few existing studies of loan markets have documented patterns inconsistent with market efficiency. For instance, among managers of loan portfolios, those who trade more actively earn higher returns and have lower loan default rates in their portfolios than less active managers,⁹⁷ suggesting that the active managers are able to earn consistent economic profits based on superior information about the loans.

45. To summarize, a market for an instrument is efficient when the price of the instrument fully reflects all available information. Potential impediments to an instrument trading efficiently include lack of transparency, low liquidity, and asymmetrically informed participants. Today's corporate bond and loan markets tend to exhibit more characteristics consistent with impediments to efficiency than stock markets, with relatively less transparency and liquidity in loan markets than bond markets. Because of the potential for these impediments, even in relatively well-developed public financial markets, market efficiency cannot be presumed and must be evaluated on a case-by-case basis.

⁹⁵ The five banks were Bank of America Merrill Lynch, JP Morgan, Goldman Sachs, Credit Suisse, and Barclays. See, *Global Syndicated League Tables FY 2017*, Bloomberg (2017), <https://data.bloomberglp.com/professional/sites/10/Bloombergs-FY-2017-Global-Syndicated-Loans-League-tables.pdf>. One article characterizes the market for loan originations as “an oligopoly of large banks that set terms for the majority of transactions, along with a competitive fringe of smaller bank and non-bank lenders,” See, J. Murfin & M. Petersen, *Loans on Sale: Credit Market Seasonality, Borrower Need, and Lender Rents*, 121 J. of Fin. Econ. 300, 302 (2016).

⁹⁶ D. Ross, *The ‘Dominant Bank Effect’: How High Lender Reputation Affects the Information Content and Terms of Bank Loans*, 23 Rev. of Fin. Studies 2730, 2731-2734 (2010).

⁹⁷ F. Fabozzi et al., *Active Loan Trading*.

VI. Evaluating Market Efficiency of the Replacement Notes

46. In this section, I assess whether an efficient market exists for purposes of assessing the cramdown rate on the Replacement Notes. The assessment follows three steps: (1) identifying the key features of the Replacement Notes that affect their relative riskiness and expected returns; (2) attempting to identify a reference market with instruments, if any, that share the key features of the Replacement Notes and have observable interest rates; and (3) if such a reference market exists, evaluating the efficiency of that market.

47. To summarize the findings of this section, my search yields no other bonds with key features similar to the Replacement Notes. That is, I find no reference market for which I can test efficiency in order to evaluate whether an efficient market for the Replacement Notes existed at issuance.

48. I also consider whether the proposed Exit Loans, as described in commitment and fee letters, could constitute a reference market for the Replacement Notes.⁹⁸ The Exit Loans are very different instruments from the Replacement Notes. Critical differences include the markets in which such loans would trade, the contractual terms and conditions associated with such loans, and the ability of lenders to monitor such loans.

⁹⁸ I note that I did not examine the secondary market for MPM's prepetition bonds prior to bankruptcy, because it is not a market that could potentially be comparable to the Replacement Notes. Prepetition debt reflected MPM's capital structure prior to bankruptcy. MPM was highly leveraged prior to bankruptcy. Indeed, the company's chapter 11 filing stemmed from a concern that its capital structure was unsustainable amidst a pending liquidity crisis. MPM filed for chapter 11 immediately prior to a \$62 million interest payment that was due on the Prepetition 1L Notes and Prepetition 1.5L Notes. MPM's capital structure was changed substantially through the chapter 11 process. The company reduced its total indebtedness from approximately \$4.1 billion as of December 2013 to approximately \$1.2 billion upon emergence from bankruptcy. Furthermore, certain terms and covenants of the prepetition notes differed from those of the Replacement Notes. For example, the prepetition notes were not redeemable for the first three years after issuance and redemption in the subsequent three years entailed a prepayment premium. *See*, First Day Decl. ¶¶ 11, 58; Disclosure Statement, at 26-28, Ex. 9; \$1,100,000,000 8.875% First-Priority Senior Secured Notes due 2020 Indenture, dated Oct. 25, 2012, Ex. A, at 8-9; \$250,000,000 10% Senior Secured Notes due 2020 Indenture dated May 25, 2012, Ex. A, at 8-9.

49. Similarly, the Exit 2L Notes cannot be considered a reference market for the 1.5L Replacement Notes because, to the best of my understanding, the terms of the Exit 2L Notes had not been finalized, and the proposed terms of the Exit 2L Notes differed from the terms of the 1.5L Replacement Notes in important ways.

50. Secondary market trading of the issued Replacement Notes cannot be a reference market because the trading and prices of the traded Replacement Notes reflect a variety of factors—including anticipated litigation outcomes—that are unrelated to the pricing of the Replacement Notes based only on their promised interest and principal payments.

51. As I describe in more detail below, because my search did not yield any instruments comparable to the Replacement Notes for purposes of forming a reference market, I conclude that no efficient market existed for the Replacement Notes at the time they were issued.

A. Step 1: Identifying Key Features of the Replacement Notes

52. The first step in evaluating whether an efficient market exists for a debt instrument issued upon emergence from bankruptcy is to identify the key features of the instrument for the purposes of defining the market for the instrument. The key features should capture the risk characteristics important to pricing the instrument. Observed yields on corporate debt reflect compensation for risks associated with whether or not the holder will receive interest payments and principal as promised under the original contract. These risks generally fall into the following categories: (1) interest rate risk, (2) credit risk, (3) call or prepayment risk, (4) sector risk, (5) liquidity risk, and (6) other factors.⁹⁹

⁹⁹ Other factors include reinvestment risk, volatility risk, inflation risk, currency risk, event risk, and political risk. *See*, Dattatreya et al., at 32.

53. *Interest rate risk* refers to the sensitivity of a debt instrument's price to changes in market-wide interest rates.¹⁰⁰ Interest rate risk associated with a bond is affected by the coupon rate, including whether the rate is fixed or floating, and by the bond's maturity, since longer maturity bonds are more sensitive to interest rates changes than shorter-term bonds.¹⁰¹

54. There are two key features of the Replacement Notes related to interest rate risk. First, the Replacement Notes have fixed coupon rates, meaning that fixed interest payments are made to holders on a semi-annual basis through the maturity date, at which time the principal also comes due.¹⁰² Fixed-rate coupons expose the Replacement Notes to more interest rate risk than floating-rate coupons. Second, the Replacement Notes mature seven to eight years after issuance. The maturity of the Replacement Notes—combined with the fixed interest rate—affects the interest rate risk of the notes, as longer duration instruments have higher interest rate risk than shorter duration instruments.¹⁰³

55. *Credit risk* is the risk that the issuer of a debt instrument will fail to make its promised payments.¹⁰⁴ The credit risk of an instrument depends in part on the underlying operating or business risk of the issuer, because debt repayments are made from cash flows generated by the business. Credit risk also depends on the instrument's payment seniority within the issuer's capital structure. Debt that is senior in the capital structure will be repaid, all else equal, before debt that is junior in the capital structure, which lowers the credit risk of senior

¹⁰⁰ *Id.* at 22.

¹⁰¹ Bodie et al., at 517.

¹⁰² The annual interest rate is equal to the coupon rate times the principal amount. The 1L Notes mature in 2021 and the 1.5L Notes mature in 2022. The principal is the issuance amount, also termed the "face value" of the notes. The principal due on the 1L Notes is \$1.1 billion; the principal due on the 1.5L Note is \$250 million. *See*, 1L Replacement Notes Indenture, Ex. A, at 2; 1.5L Replacement Notes Indenture, Ex. A, at 2.

¹⁰³ Bodie et al., at 517.

¹⁰⁴ *See*, Dattatreya et al., at 25.

debt relative to junior debt.¹⁰⁵ Collateral impacts seniority because secured debt enjoys foreclosure and bankruptcy rights that require secured creditors to be repaid (up to the value of their collateral) before junior claimants receive any repayment.¹⁰⁶

56. There are three key features related to credit risk that distinguish the Replacement Notes from other corporate bonds. First, given MPM's leveraged capital structure,¹⁰⁷ the Replacement Notes are "high-yield" in the sense that they would trade in a market with other bonds rated "below investment grade," or not rated at all, because of their high credit risk. Second, the Replacement Notes are secured by liens against the assets of MPM; thus, the Replacement Notes are relatively senior in the capital structure and can expect higher recoveries than unsecured creditors in MPM in the event of a subsequent restructuring.¹⁰⁸ Third, the Replacement Notes were unrated at the time of issuance and remained unrated for two months thereafter.¹⁰⁹ A credit rating is "a formal opinion given by a specialized company of the default risk faced by investing in a particular issue of debt securities,"¹¹⁰ and can improve the transparency of the issue to the market.

57. *Call or prepayment risk* refers to the risk that bonds will be redeemed or "called" by the issuer prior to maturity.¹¹¹ It is often in the interest of an issuer to redeem a fixed-rate bond prior to maturity when market-wide interest rates fall, or if the credit risk of the issuer

¹⁰⁵ See, Bodie et al., at 473.

¹⁰⁶ See, *id.*

¹⁰⁷ MPM's debt to EBITDA ratio was approximately 6x after it emerged from bankruptcy. See, e.g., *Momentive Performance Materials Inc. Assigned 'B-' Corporate Credit Rating, Stable Outlook; Debt Ratings Also Assigned*, Standard & Poor's (Dec. 19, 2014).

¹⁰⁸ See, MPM 2014 Form 10-K, 66-68.

¹⁰⁹ Standard & Poor's, Dec. 19, 2014; *Moody's Assigns B3 to Momentive Performance's First-Lien Notes; Outlook Stable*, Moody's (Jan. 16, 2015).

¹¹⁰ Dattatreya et al., at 25.

¹¹¹ *Id.* at 24.

improves.¹¹² By calling bonds early, the issuer deprives bondholders of interest rate payments that were expected beyond the time of redemption. Accordingly, bond indentures often provide bondholders with a number of protections against the risk of early redemption. These protections lower the call risk of the bond and typically include a “no call period,” or a period during which a bond cannot be called; a “call premium,” which is an additional pre-specified amount above the face value that the issuer pays to holders in the event of an early redemption; and/or a “make-whole” provision, that requires the issuer to pay holders the present value of future interest payments that will be foregone in the redemption.¹¹³ These call protections are important to bondholders because they mitigate the downside risk of early redemption of a fixed-rate instrument.¹¹⁴

58. A key feature of the Replacement Notes is that they lack any kind of call protection.¹¹⁵ This lack of call protection exposes the Replacement Notes to additional risk, as MPM has the option to repay the noteholders early if market interest rates or credit conditions become more favorable.

59. *Sector risk* refers to a risk that is specific to a particular segment of the market, such as an industry, because different sectors of the economy can be adversely (or positively) affected by certain events.¹¹⁶ Industry-wide trends or events can affect the systematic operating

¹¹² Bodie et al., at 448.

¹¹³ F. Fabozzi, et al., *Overview of the Types and Features of Fixed Income Securities*, in *The Handbook of Fixed Income Securities* 9-11 (8th ed. 2012); W. Whelan, *Bond Indentures and Bond Characteristics*, in *Leveraged Financial Markets* 173 (1st ed. 2010).

¹¹⁴ F. Fabozzi, et al., *Overview of the Types and Features of Fixed Income Securities*, at 9-11.

¹¹⁵ 1L Replacement Notes Indenture, Ex. A, at 6; 1.5L Replacement Notes Indenture, Ex. A, at 6.

¹¹⁶ Dattatreya et al., at 30.

risk a company faces, and therefore have implications for a company's ability to repay its debts.¹¹⁷

60. As discussed above, MPM sought bankruptcy protection in part because of unfavorable conditions in the chemicals sector. Indeed, the credit ratings agency Moody's emphasized such industry pressures on MPM when it issued a company-level rating after the Company emerged from chapter 11.¹¹⁸ Relatedly, industry and macroeconomic conditions at the time of issuance impact the pricing of the notes, as the risk of repayment can vary through the business cycle.¹¹⁹ Therefore, both the industry and the timing of bond issuances are additional key features that should be considered when contemplating the market for the Replacement Notes.

61. *Liquidity risk* is the risk that the holder of a bond will not be able to sell quickly and without incurring a high cost.¹²⁰ Various factors affect bond liquidity risk, including the uncertainty about the instrument or issuer,¹²¹ whether the bond was issued recently or sometime in the past,¹²² and whether the bond was registered with the SEC or privately placed.¹²³ Unregistered bonds, such as "144A" notes, are only available for purchase by QIBs,¹²⁴ which further limits the liquidity of the market for such notes.

¹¹⁷ Bodie et al., at 571.

¹¹⁸ In its initial ratings assessment of the company following bankruptcy, Moody's noted that "Moody's expects that Momentive, having recently emerged from bankruptcy, will have an adequate liquidity profile, comprised of a stable level of modest cash generation, over at least the next 18-24 months. However, *the company is almost entirely exposed to a global silicone market that is highly competitive and currently experiencing a cyclical period of oversupply, and weak global demand within some sub-segments.*" See, Moody's, Jan. 16, 2015 (emphasis added).

¹¹⁹ Bodie et al., at 575-582

¹²⁰ Dattatreya et al., at 27.

¹²¹ D. Diamond & R. Verrecchia, *Disclosure, Liquidity, and the Cost of Capital*, 46 J. of Fin. 1325 (1991).

¹²² E. Elton et al., *Factors Affecting the Valuation of Corporate Bonds*, 28 J. of Banking and Fin. 2747, 2756 (2004).

¹²³ Whelan, at 171, 175.

¹²⁴ See, *Fact Sheet: Eliminating the Prohibition on General Solicitation and General Advertising in Certain Offerings*, SEC.

62. The Replacement Notes are SEC-registered securities governed by an indenture and traded in corporate bond markets.¹²⁵

63. An additional important feature of the Replacement Notes is that they were issued in the context of MPM's emergence from bankruptcy. The bankruptcy process generates substantial uncertainty about a company and its future prospects. As a general matter, bankrupt firms can be particularly difficult to value, as they typically start fresh with a new operating and capital structure, which increases uncertainty around the company's future success.¹²⁶ Emergence from bankruptcy could be an important factor for bond pricing insofar as investors seek additional yield as compensation for heightened uncertainty about the returns from their investment.

64. Finally, the *type* of instrument is an important feature of the Replacement Notes because different debt instruments such as bonds and loans typically have different exposures to interest, credit, prepayment and liquidity risk. Unlike loans, the Replacement Notes are publicly registered bonds, governed by indentures, and traded in corporate bond markets. As I describe in more detail in Section VI.B.2 below, the Replacement Notes are very different from syndicated loans and have different exposures to these categories of risk.

B. Step 2: Attempting to Identify a Reference Market

65. The second step in evaluating whether an efficient market exists for a debt instrument issued upon emergence from bankruptcy is to attempt to identify a reference market

¹²⁵ *Bloomberg*; 1L Replacement Notes Indenture; 1.5L Replacement Notes Indenture.

¹²⁶ *See*, Gilson, et al.. Uncertainty may be created by changes in a company's operations or customer relationships. For example, S&P saw a "meaningful reduction in or loss of business with key customers due to the bankruptcy" as a key risk to the company's outlook. *See*, Standard & Poor's, Dec. 19, 2014. It is notable the company was not covered by analysts during bankruptcy from May 2014 onward or in the months following its emergence from bankruptcy, and, as discussed above, the Replacement Notes were not rated until two months following their issuance.

comprised of a set of traded instruments, if any, that have observable interest rates (or yields) and share the key features of the instrument at issue. If a set of such instruments exists, the reference market can be tested for efficiency. If no instruments exist with matching key features, then there is no reference market for the assessment of efficiency.

1. Attempting to Identify a Set of Instruments Comparable to the Replacement Notes

66. Using the key features of the Replacement Notes identified in the previous section, I searched for comparable instruments within the universe of traded U.S. corporate bonds.

67. In conducting this step of the analysis, I identified all corporate bonds from Capital IQ¹²⁷ that also had the following characteristics: (a) fixed coupon rate; (b) maturity of between five and ten years;¹²⁸ (c) issued as high-yield bonds;¹²⁹ (d) secured by a lien on the issuer's assets;¹³⁰ (e) absence of call protection; (f) issued by an issuer in the chemicals industry;¹³¹ and (g) issued within a two-year window prior to the Effective Date (when the

¹²⁷ Capital IQ is a premier research platform and financial database that provides information for a variety of analyses, including company, industry, and market analysis, financial modeling, and screening. *See, S&P Capital IQ: The Essential Platform For Financial Professionals*, S&P Global Market Intelligence (last visited June 11, 2018), <https://www.spglobal.com/marketintelligence/en/solutions/sp-capital-iq-platform>.

¹²⁸ MPM's 1L Replacement Notes were issued in October 2014 with a tenor of 7 years and MPM's 1.5L Replacement Notes were issued with a tenor of 7.5 years. *See, Bloomberg*.

¹²⁹ High-yield bonds are defined as those that are not classified as "Investment Grade" by Capital IQ and include unrated bonds.

¹³⁰ Capital IQ classifies the seniority of MPM's 1L Replacement Notes and 1.5L Replacement Notes as "Senior Secured."

¹³¹ Capital IQ lists MPM's primary industry classification as specialty chemicals. Moody's and S&P considered MPM to be part of the chemicals industry. *See, Standard & Poor's*, Dec. 19, 2014; *Moody's*, Jan. 16, 2015. I searched Capital IQ for all issuers in the chemicals industry, which is a superset of all issuers in the specialty chemicals industry.

Replacement Notes were issued).¹³² This search produced no bonds comparable to the Replacement Notes.

68. I note that my search above found no matches for the Replacement Notes before including several characteristics important to assessing the risk exposure of the Replacement Notes. Mainly, I did not restrict the search above to bonds with recent bankruptcy filings by the issuer. I also allowed the bonds to have a credit rating at issuance although the Replacement Bonds lacked a credit rating at issuance, which is also an important feature of the Replacement Notes. Even without imposing these restrictions, my search did not produce any bonds comparable to the Replacement Notes. Including these restrictions would have made it even more difficult to find instruments that matched the key features of the Replacement Notes.

69. In conclusion, my search yielded no U.S. corporate bonds that share the key features of the Replacement Notes issued at or around the time the Replacement Notes were issued in October 2014. Accordingly, I conclude that there was no set of bonds that would constitute a reference market for the Replacement Notes for the purposes of assessing market efficiency.^{133,134}

2. The Exit Loans Are Not Comparable Instruments to the Replacement Notes

70. Below I consider whether the Exit Loans described in the commitment letters provided by JP Morgan, Credit Suisse, and Citi constitute a reference market for the purposes of

¹³² I examined bond issuances in the period between October 24, 2012 and October 24, 2014 representing a two-year window prior to when the Replacement Notes were issued.

¹³³ My conclusions are unchanged if I instead examine bond issuances between August 26, 2012 and August 26, 2014, when the Bankruptcy Court ruled on the cramdown rate. Likewise, expanding my search to encompass the six months following October 2014 would not change this result.

¹³⁴ I also conducted a search for comparable instruments in Capital IQ among bonds that were already trading at the time of the issuance of Replacement Notes (i.e., any bonds issued on or before the Effective Date that had a similar remaining maturity as the tenor of the Replacement Notes). The conclusions I draw from this alternative exercise remain the same.

evaluating whether an efficient market could exist for the Replacement Notes at the time of their issuance.

71. To summarize my findings in this section, the Exit Loans are an entirely different type of instrument, in both form and function, from the Replacement Notes and do not constitute a comparable reference market. Loans originate and trade under a distinctly different market structure and contain markedly different contractual terms and conditions compared with bonds. Moreover, loans involve active monitoring by lenders; this level of involvement does not exist with respect to bonds. Correspondingly, the market in which the Exit Loans would have originated, the terms and conditions of such loans, and the extent to which lenders would monitor such loans, differed substantially from the Replacement Notes. Thus, irrespective of whether the market for the Exit Loans was efficient, the instruments are different from the Replacement Notes and therefore do not satisfy Step 2 and cannot constitute a reference market for the Replacement Notes.

72. As an illustration of the differences between loans and bonds, it is notable that in April 2014, JP Morgan and Citi provided parallel proposals for either a second lien term loan or the Exit 2L Notes to finance payment to the holders of the 1.5L Prepetition Notes had they accepted the Plan.¹³⁵ The differences between the loan and bond terms offered by the respective banks reflect many of the customary differences between loans and bonds that I discuss below, including differences in call protection and mandatory prepayments.¹³⁶

73. What is most notable about the comparison of the offers is that the pricing of the loan and bond offers differed substantially. For example, Citi proposed to price its second lien

¹³⁵ Moelis correspondence, MPMR_AGSHF_0053466-471, at 468-470.

¹³⁶ *See, id.* at 469.

term loan at the floating rate of LIBOR plus 750 basis points (with a 1% LIBOR floor), so no lower than 8.5% and potentially higher, compared to a lower 7.5% indicative fixed coupon rate on the 2L Exit Notes. Likewise, JP Morgan proposed to price its second lien term loan at the floating rate of LIBOR plus 675 basis points (with a 1% LIBOR floor), or at least 7.75%, compared to a lower 6.75-7.125% indicative fixed coupon rate on the 2L Exit Notes.¹³⁷

74. This difference in rates on the proposed term loans and bonds underscores the different nature of the instruments and different markets in which they trade. Even though the offers were both for the issuance of new debt for the same company, the proposed rate on the term loans and bonds differed substantially.¹³⁸ Background slides prepared by Citi also provide an “update” on the high yield bond market separate from an update on the leveraged loan market,¹³⁹ underscoring the fact that loans and bonds trade in distinctly different markets.

75. Below, I discuss in more detail the reasons why the Exit Loans are not comparable to the Replacement Notes. While many of the customary differences between loans and bonds also apply to the Exit ABL, I focus on the Exit Loans because the Exit ABL—as a revolving facility that provides an *option* to draw on a committed credit line—is so fundamentally different from the Replacement Notes.¹⁴⁰

¹³⁷ See, *id.* at 468.

¹³⁸ See, *id.*

¹³⁹ Correspondence from Citi to Moelis, MPMR_AGSHF_0030686-699, at 691-692.

¹⁴⁰ The Exit ABL is a revolving credit facility put in place to fund working capital and for other corporate purposes, and was not intended in whole or in part to refinance the Prepetition 1L Notes or Prepetition 1.5L Notes. Unlike the Replacement Notes—and the Exit Loans—the Exit ABL provided MPM with an option to draw on a committed line and also pay it back and reuse the commitment, much like a credit card. Other differences separate the Exit ABL from the other Exit Loans, including the fact that maturity occurred earlier (after five years); the ABL lenders had first-priority liens on MPM’s receivables and inventory, and the borrower was subject to financial covenants. See, Apr. 3, 2014 Commitment Letter, at 393-396, 399-400, 404-405.

a) Loan Markets Are Distinctly Different from Bond Markets

76. As syndicated loans, the Exit Loans would originate and trade within a market structure that is distinctly different from the structure in which the Replacement Notes trade.¹⁴¹ As discussed in Section V.C.3 above, loans are private debt instruments that trade in private markets, largely free of regulation. By contrast, the Replacement Notes are SEC-registered public securities that trade in public bond markets. This means that investors in the Replacement Notes are protected by an umbrella of laws, rules, and regulations that apply to public debt securities but not to private loans, including the Securities Act of 1933, the Securities Exchange Act of 1934, and the Trust Indenture Act of 1939, as well as regulations governing the brokers and dealers that sell public securities.¹⁴² Loans, such as the Exit Loans, do not offer investors the same level of regulatory protection as the Replacement Notes.

77. Moreover, as discussed in Section V.C above, syndicated loan markets differ from bond markets in terms of the relative level of transparency and liquidity of the market. Trading in relatively less regulated, opaque, and illiquid markets implies that participants in loan markets face increased liquidity and other risks when trading loans as compared to bonds. These increased risks could have consequences for pricing loans versus bonds.

78. Finally, as described above, corporate loan trades typically take longer than bonds to settle. The longer settlement time on loan trades exacerbates the risks to investors from trading loans compared to bonds and reinforces the fact that the markets for these two

¹⁴¹ I note that as of April 3, 2014 when JP Morgan, Citigroup, and Credit Suisse agreed to provide both DIP and exit financing to MPM, the Exit Loans had not yet been syndicated. Should the lead arrangers have failed to syndicate these loans, the Exit Loans would have been even more illiquid and less similar to the Replacement Notes in terms of the markets in which these instruments would be traded.

¹⁴² For a description of the SEC Acts, see, *The Laws That Govern the Securities Industry*, SEC (Oct. 1, 2013), <https://www.sec.gov/answers/about-lawsshtml.html>. For additional regulations covering the trading of public securities including those promulgated by FINRA, see, *Trade Reporting and Compliance Engine (TRACE)*, FINRA, (last visited June 11, 2018) <http://www.finra.org/industry/trace>.

instruments render the Exit Loans incomparable to the Replacement Notes for the purposes of determining a reference market.

b) Loan Contracts Differ Markedly from Bond Indentures

79. The contractual terms and conditions of loan contracts—known as “credit agreements” or “loan agreements”—differ in meaningful ways from bond indentures. These differences can be observed by comparing the terms and conditions for the Exit Loans, as described in the commitment and fee letters, to those of the Replacement Notes, as described in the Replacement Notes indentures (see Exhibit 1).

80. The pricing structure of the Exit Loans provides a variety of protections to lenders that are not available for the Replacement Notes, rendering the Exit Loans incomparable to the Replacement Notes as a reference market. In particular, the following pricing options are present in the Exit Loans:

- a. *Floating Interest Rate.* The Exit Loans are floating-rate instruments, meaning that the interest rate charged on the loan equals a spread (or “margin”) plus an observable market benchmark rate that changes over time.¹⁴³ By contrast, as noted in Section VI.A above, the Replacement Notes pay a fixed rate of interest throughout the life of the notes.¹⁴⁴ Therefore, the Replacement Notes are exposed to greater interest rate risk compared to the Exit Loans.
- b. *Flex Provision.* The Exit Term Loan commitment includes a “flex provision”¹⁴⁵ that allows for the spread on the Exit Term Loan to change at the point in time

¹⁴³ Apr. 3, 2014 Commitment Letter, at 441; June 13, 2014 Commitment Letter, at 732.

¹⁴⁴ 1L Replacement Notes Indenture, Ex. A, at 5; 1.5L Replacement Notes Indenture, Ex. A, at 5.

¹⁴⁵ “[M]arket flex language... give[s] arrangers the flexibility to adjust loan terms and loan pricing to ensure that the loan would be fully subscribed. Typically in such an arrangement there is an upper limit on what the borrower will

that the loan was syndicated.¹⁴⁶ Had the Exit Term Loan been syndicated, it could have commanded a different (and potentially lower) rate after syndication than the spread quoted under the Exit Term Loan commitment.¹⁴⁷

- c. *Performance Pricing.* The Exit Term Loan also allows for a one-time downward adjustment in the interest spread in response to an observable improvement in the borrower's credit risk, measured as a reduction in MPM's first-lien leverage ratio.¹⁴⁸ Such "performance-based" pricing, which is common to syndicated loans and absent in bonds, allows the loan interest rate to change in response to a borrower's financial performance.¹⁴⁹
- d. *Default Rate.* On top of the floating benchmark, the Exit Loans allow the lenders to charge an additional 2.00% interest premium on past due principal or interest payments.¹⁵⁰ The Replacement Notes do not contain any such provision.¹⁵¹

81. As noted above in Section VI.B.1, the Replacement Notes lack call protection against early redemption of the notes by the Company.¹⁵² Because the interest rate on the Replacement Notes is fixed and includes none of the flexibility of the pricing of the Exit Loans, and because the Replacement Notes include no protections against early repayment, the holders of the Replacement Notes are subject to prepayment risk. By contrast, the Exit Term Loan

accept and often involves increasing the loan's spread above its reference benchmark. A reverse market flex, in contrast, tightens the spread in response to over-subscription or other market conditions." See, Antczak, et al., at 291.

¹⁴⁶ Apr. 3, 2014 Fee Letter, at 447.

¹⁴⁷ Indeed, the interest rate on the DIP term loan was reduced upon syndication. See, Deposition of William Q. Derrough, Sept. 8, 2014, 21:6-22:5 (the "Derrough 2014 Deposition").

¹⁴⁸ Apr. 3, 2014 Commitment Letter, at 441. See also, Jamal 2018 Dep. 174:5-11.

¹⁴⁹ Bobrow et al., at 175.

¹⁵⁰ Apr. 3, 2014 Commitment Letter, at 434. See also, Jamal 2018 Dep. 175:9-15.

¹⁵¹ Jamal 2018 Dep. 176:17-24.

¹⁵² Jamal 2018 Dep. 200:18-21.

includes call protection. In particular, a 1% premium above par would have been due on the Exit Term Loan if it was refinanced within the first year.¹⁵³ Given that distinct prepayment risks are present in the Replacement Notes and the Exit Term Loan, the Exit Term Loan is not comparable for purposes of determining a reference market.

82. According to their respective commitment letters, the Exit Loans contain other contractual protections that are absent in the indentures for the Replacement Notes, rendering the Exit Loans incomparable to the Replacement Notes as a reference market. In particular, the following contractual protections are present in the Exit Loans:

- a. *Conditions Precedent.* The Exit Loans require that the borrower meet certain conditions prior to extending the loan.¹⁵⁴ For example, the Exit Term Loan commitment sets out 13 conditions precedent prior to lending, including that the ratio of funded debt to consolidated EBITDA exceed 5.25x, that that minimum consolidated EBITDA for MPM Intermediate Holdings and its subsidiaries over the previous four quarters exceed \$230 million, that a court-approved bankruptcy plan of reorganization be in place that includes and approves the amounts under the Exit Loans, and that the agent for the Exit Loans receive pro forma financial statements from the borrower and its subsidiaries as of the most recent month and fiscal quarter end.¹⁵⁵ I have found no evidence that the Replacement Notes required any similar conditions for extension.

¹⁵³ Apr. 3, 2014 Commitment Letter, at 436. *See also*, Jamal 2018 Dep. 199:11-20. The Exit 2L Bridge Loan was redeemable at par, alongside any accrued and unpaid interest, at any time. *See*, June 13, 2014 Commitment Letter, at 734.

¹⁵⁴ Conditions precedent are often extensive in syndicated loans. *See*, R. Wight et al., *Understanding the Credit Agreement*, in *The Handbook of Loan Syndications & Trading* 262 (1st ed. 2007).

¹⁵⁵ Apr. 3, 2014 Commitment Letter, at 408-410, 437. The Exit 2L Bridge Loan contained 16 conditions precedent, including many of the same conditions as the Exit Term Loan. *See*, June 13, 2014 Commitment Letter, at 734-737.

- b. *Mandatory Prepayments.* Borrowers under the Exit Loans and the Replacement Notes share the ability to prepay all or part of the debt principal early. However, the Exit Term Loan and, to a lesser extent, the Exit 2L Bridge Loan, *require* early prepayments upon the occurrence of several events that are not covered by the Replacement Notes.¹⁵⁶ Such mandatory prepayments are common to syndicated loans and are typically absent in bonds or notes.¹⁵⁷
- c. *Assignment and Participations.* While the Replacement Notes can be traded publicly through corporate bond dealers without consideration as to the identity of the buyer, the Exit Loans—as is common with many syndicated loans¹⁵⁸—included rules and restrictions on the trading of shares in the Exit Loans, including denying certain investors the ability to purchase the loans. Specifically, sales of any shares (called “assignments”) in the Exit Loans required consent of both the borrower and the administrative agent on the loan. Moreover, sales to certain investors, termed “disqualified lenders,” are forbidden under the Exit Loans.^{159,160} Compared to the Replacement Notes, the additional restrictions and qualifications required to sell the Exit Loans would likely increase trading costs

¹⁵⁶ Specifically, the mandatory prepayments on the Exit Term Loan include payments to be made from “excess” proceeds from sales and dispositions of assets outside the ordinary course of business (subject to the ability to reinvest the proceeds and to certain leverage ratio requirements), excess cash flow (subject to certain leverage ratio requirements), and any net proceeds from new debt issuances. By contrast, the Replacement Notes require early prepayment only in the event that the borrower receives excess proceeds from sales and dispositions of assets in excess of \$20 million or if the yield to maturity on the Replacement Notes were to pass the threshold at which the notes would be considered “applicable high yield discount obligations.” *See*, Apr. 3, 2014 Commitment Letter, at 435-436; June 13, 2014 Commitment Letter, at 733-734; 1L Replacement Notes Indenture, at 52, 70; 1.5L Replacement Notes Indenture, at 49, 67.

¹⁵⁷ R. Wight et al., at 253-54.

¹⁵⁸ *See, id.*, at 366.

¹⁵⁹ Apr. 3, 2014 Commitment Letter, at 437-438.

¹⁶⁰ Assignment of loans under the Exit 2L Bridge Facility required consent of the agent, consultation with the borrower and consent of the borrower if the initial lenders would hold less than 50.1% of the outstanding principal. *See*, June 13, 2014 Commitment Letter, at 737-738.

and reduce the liquidity of the Exit Loans in a way that differentially impacts the pricing of the Exit Loans relative to the Replacement Notes.

- d. *Arranger Fees.* The Exit Term Loan and Exit 2L Bridge Loan provide for specific fees for the arrangers, including an arrangement fee or commitment fee and other compensation for the arrangers.¹⁶¹ I am not aware of any such fees associated with the Replacement Notes.¹⁶²
- e. *Amortization.* The Exit Term Loan would amortize at a rate of 1% per year, spread over equal quarterly installments, through maturity.¹⁶³ This means that, over the 7 year term of the loan, the remaining principal on the loans would be periodically reduced, thereby gradually reducing credit risk to lenders.¹⁶⁴ The Replacement Notes have no such provision.¹⁶⁵

c) The Close Monitoring of Loans Contrasts Starkly with Bonds

83. Lenders in a loan syndicate monitor loans much more intensively than holders of bonds and notes. Indeed, many of the differences in terms and conditions between the Exit Loans and the Replacement Notes discussed in the previous sub-section, including the performance pricing feature, strong conditions precedent and existence of mandatory prepayments, reflect the fact that lenders are willing to monitor the borrower closely and

¹⁶¹ The Exit Term Loan included an arrangement fee, equal to 2.25% of the principal and allocated among the initial lenders, and an additional upfront fee of 0.5% of the principal, owed to each lender separately. The administrative agent would also receive compensation of \$100,000 per year. The Exit 2L Bridge Loan includes a commitment fee, owed regardless of whether the loan was actually made; a takedown fee, based whether the loan was made and the principal amount; and a conversion fee, owed only if the loan remained active after a year and converted to either a term loan or exchange notes. The administrative agent would also receive an administration fee. *See*, Apr. 3, 2014 Fee Letter, at 446; June 13, 2014 Fee Letter, at 749-750.

¹⁶² Jamal 2018 Dep. 194:20-195:7.

¹⁶³ Apr. 3, 2014 Commitment Letter, at 434.

¹⁶⁴ Jamal 2018 Dep. 196:5-19.

¹⁶⁵ Jamal 2018 Dep. 16:20-24.

frequently step in to adjust the loan terms and conditions when needed.¹⁶⁶ Numerous academic studies have noted this distinction between loans and bonds and have shown that the close monitoring of loans can affect the pricing of loans in ways that make loan rates incomparable for purposes of pricing the Replacement Notes.¹⁶⁷

84. Syndicated loans are originated and managed by a “lead arranger” or co-lead arrangers. The lead arranger “structures the term sheet; interfaces with the client and with investors; prepares, negotiates, and closes documents; and manages the syndication process.”¹⁶⁸ The lead arranger often has a relationship with the borrower beginning prior to the origination of the current loan.¹⁶⁹ Importantly, the lead arranger also typically acts as the “administrative agent” (or simply, “agent”) on the loan and, in that capacity, interacts regularly with the borrower, handling all interest and principal payments to the syndicate, as well as monitoring the borrower on a regular basis on behalf of the rest of the syndicate.¹⁷⁰

85. Regular compliance checks, occurring typically on a quarterly basis, conducted by an agent on a syndicated loan serve as early signals to the syndicate that the borrower may be

¹⁶⁶ “[T]he renegotiation of private debt contracts not only occurs very frequently but also leads to significant changes in corporate capital structures.” See, M. Roberts & A. Sufi, *Renegotiation of Financial Contracts: Evidence from Private Credit Agreements*, 93 J. of Fin. Econ. 159, 160 (2009). See also, D. Denis & J. Wang, *Debt Renegotiations and Creditor Control Rights*, 113 J. of Fin. Econ. 348 (2014); M. Roberts, *The Role of Dynamic Renegotiation and Asymmetric Information in Financial Contracting*, 116 J. of Fin. Econ. 61 (2015).

¹⁶⁷ D. Diamond, *Financial Intermediation and Delegated Monitoring*, 51 Rev. of Econ. Studies 393 (1984); E. Fama, *What’s Different about Banks?*, 15 J. of Monetary Econ. 29-39 (1985); R. Rajan, *Insiders and Outsiders: The Choice between Informed and Arm’s-Length Debt*, 47 J. of Fin. 1367 (1992); C. Smith, *A Perspective on Accounting-Based Debt Covenant Violations*, 68 Acct. Rev. 289 (1993); C. James, *Some Evidence on the Uniqueness of Bank Loans*, 19 J. of Fin. Econ. 217 (1987); G. Nini, D. Smith & A. Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*.

¹⁶⁸ Bobrow, et al., at 172.

¹⁶⁹ See, S. Bharath, et al., *So What Do I Get? The Bank’s View of Lending Relationships*, 85 J. of Fin. Econ. 368, 385 (2007).

¹⁷⁰ “The *administrative agent* is the bank that handles all interest and principal payments and monitors the loan.” See, S. Page et al., *An Overview of the Loan Market*, in *The Handbook of Loan Syndications & Trading* 50 (1st ed. 2007). In addition, Sufi (2007) states “[T]he lead arranger typically also acts as the ‘agent’ bank that monitors the firm, governs the terms of the loan, administers the drawdown of funds, calculates interest payments, and enforces financial covenants.” See, A. Sufi, *Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans*, 62 J. of Fin. 629, 633 (2007).

experiencing unexpected changes in performance. These changes include improvements in financial performance that could signal decreased credit risk, or a deterioration in performance that could signal future covenant violations or an inability to meet payment requirements.¹⁷¹ In response to unexpected changes to borrower performance, the agent can work with the syndicate of lenders to “amend” or renegotiate the loan. In fact, virtually all syndicated loans are amended at least once prior to maturity, and most syndicated loans are amended often.¹⁷² These negotiations often occur in response to the near-term risk of a covenant violation.¹⁷³ Lenders step in and often offer to waive the violation or amend the contract to avoid the covenant breach.¹⁷⁴ However, in return, the bank often requires the borrower to accept more restrictive contract terms, including paying new fees or higher interest margins, and to alter its corporate decision making to be more financially conservative.¹⁷⁵

86. In contrast to the actions of lenders on syndicated loans, holders of bonds do not actively monitor borrowers. An “indenture trustee” oversees the bond issuance, following rules prescribed by the Trust Indenture Act of 1939 (“TIA”).¹⁷⁶ Unlike the agent on a loan, who also holds a large share of a syndicated loan in its role as a lead arranger, the indenture trustee is not financially incentivized to actively monitor the bond.¹⁷⁷ Nor does the indenture trustee typically have a long-standing lending relationship with the borrower. Furthermore, the trustee does not

¹⁷¹ “Our analysis of what triggers renegotiation reveals that the accrual of new information concerning credit quality and outside options is a strong predictor of the incidence and outcomes of renegotiation,” *See*, Roberts & Sufi, at 160. *See also*, Wight et al., at 301-303.

¹⁷² Roberts and Sufi (2009) study 1,000 credit agreements and report that more than 90% of the contracts with maturity greater than one year amended a “major contract term” (principal, maturity, or interest) at least once prior to maturity. *See*, M. Roberts & A. Sufi, at 160. Roberts (2015) reports that the typical bank loan is renegotiated five times prior to maturity, or roughly once every nine months. *See*, Roberts, at 62.

¹⁷³ *See*, Roberts & Sufi, at 171.

¹⁷⁴ *See*, G. Nini, D. Smith & A. Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, at 1715.

¹⁷⁵ *See, id.*

¹⁷⁶ *See*, S. Schwarcz & G. Sergi, *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 Ala. L. Rev. 1037, 1039 (2008).

¹⁷⁷ Y. Amihud et al., *A New Governance Structure for Corporate Bonds*, 51 Stanford L. Rev. 447, 473 (1999).

play as active of a communication role between the borrower and holders of the bond as does an agent with loan syndicate members.¹⁷⁸ In general, the incentives of the indenture trustee to monitor and manage a bond issuance are reduced greatly, compared with an agent on a loan.

87. Formal compliance checks of an issuer by the indenture trustee, to the extent that they occur, are required to take place relatively infrequently.¹⁷⁹ The TIA requires only *annual* reports from the issuer to the indenture trustee about the company's financial condition and, compared to the information produced for lenders, the information reported is fairly rudimentary.¹⁸⁰ Compared to the agent on a loan, an indenture trustee interacts very little with the issuer and the holders of the instruments. Outside of a default, the duties of an indenture trustee are "ministerial," involving relatively little beyond the trustee's annual reporting requirements under the TIA.¹⁸¹

88. Additionally, unlike lenders in a syndicate, whose identities are tracked by the administrative agent at all times, the identities of bond holders are typically unknown to the issuer or the indenture trustee at any given point in time.¹⁸² This makes communication between

¹⁷⁸ R. Wight et al., at 354-55.

¹⁷⁹ The TIA sets requirements for communications between the bond and note issuers, the indenture trustee, and registered note and bondholders. Trust Indenture Act of 1939, 15 U.S.C. § 77aaa (1939) (the "TIA"). The TIA requires that: (a) the indenture trustee report on an *annual* basis to registered holders whether certain events had occurred during that 12-month period, including material changes to the issuer, indenture, and/or properties underlying the indentures. (TIA, Section 313(a)); (b) that the issuer file with the indenture trustee annual reports and other disclosures over the year to the SEC, (TIA, Section 314(a)(1)) and (c) that the issuer report to the indenture trustee, and the chief executive or chief financial officer certify, any defaults or violations of covenants over the previous year (TIA, Section 314(a)(2)-(4)). Consistent with the requirements under the TIA, the Replacement Notes Indentures require an *annual* submission of a compliance certificate (occurring no more than 120 day following the end of a fiscal year) by the company's chief financial officer certifying that no default has occurred over the previous year. *See*, 1L Replacement Notes Indenture, at 76; 1.5L Notes Indenture, at 72-73.

¹⁸⁰ Issuers are also required to provide the trustee with copies of the documents and reports that they file with the SEC, and additional documents and reports related to compliance with the conditions and covenants of the indenture. *See*, TIA, Section 314(a)(1)-(4).

¹⁸¹ *See*, Schwarcz & Sergi, at 1040.

¹⁸² To facilitate trading, the typical corporate note or bond registers all holdings in the name of Cede & Co., the nominee name used by the Depository Trust Company (DTC), the centralized clearinghouse for most U.S. stocks and bonds. In turn, brokers keep their own record of which securities are ultimately held by their customers. *See*,

the issuer, indenture trustee, and holders both cumbersome and expensive. Consequently, it is very difficult to amend or renegotiate a bond. This means that bond issuances cannot benefit from the same degree of flexibility of adjusting the contract conditions to changes in borrower performance as do loans.

89. The differences in reporting, monitoring, and capacity for re-negotiation between corporate loans and bonds affect the terms of the underlying instruments and their pricing. Indeed, the ability of lenders to monitor and renegotiate loans frequently is a hallmark distinction between loans and bonds.¹⁸³ Extensive scholarly evidence indicates that bank loans have a meaningful impact on the behavior and value of corporate borrowers in ways that do not occur when companies rely on corporate bonds.¹⁸⁴

90. These differences underscore the fact that loans and bonds are distinct in both form and function, and the Exit Loans are not comparable to the Replacement Notes for purposes of determining a reference market. As such, the Exit Loans do not satisfy Step 2 in the analysis and do not constitute a reference market for the Replacement Notes.

d) Features Specific to Exit Loans Separate Further Their Comparability to Replacement Notes

91. Moreover, aside from the customary differences between corporate loans and bonds, features specific to the Exit Loans make them incomparable to the Replacement Notes at the time the Replacement Notes were issued.

FAQs: How Issuers Work with DTC, Depository Trust and Clearing Corp. (last visited June 11, 2018), <http://www.dtcc.com/settlement-and-asset-services/issuer-services/how-issuers-work-with-dtc>; *About DTCC, Depository Trust and Clearing Corp.* (last visited June 11, 2018), <http://www.dtcc.com/about/businesses-and-subsidiaries/dtc>.

¹⁸³ Diamond; Fama, *What's Different about Banks?*; Rajan.

¹⁸⁴ James; C. Smith; G. Nini, D. Smith & A. Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*.

92. First, the negotiations on the Exit Term Loan commitment occurred during February and March 2014, at a time when MPM was financially distressed and preparing to declare bankruptcy.¹⁸⁵ Six months later, by the time the Replacement Notes were issued, the information used to price the commitment for the Exit Term Loan was “stale.” Considerable new information about MPM and its bankruptcy became available between the commitment letter date (April 3, 2014) and the issuance of the Replacement Notes (October 24, 2014). Thus, any risks incorporated into the cramdown pricing of the Replacement Notes could be very different from the risks assessed at the time the Exit Term Loan was originally negotiated, rendering the two rates even less comparable. A similar issue applies to the commitment under the Exit 2L Bridge Loan, which was set on June 13, 2014—more than four months prior to when the Replacement Notes were issued.

93. For example, the Exit Term Loan commitment prices do not incorporate relevant information contained in disclosures after April 4, 2014, including the market reaction to news of MPM’s bankruptcy and its plans to “slash more than \$3 billion in debt off the company’s books;”¹⁸⁶ the downgrading and subsequent withdrawal of MPM’s credit ratings;¹⁸⁷ news that MPM’s DIP financing was approved;¹⁸⁸ and objections to the Plan by unsecured creditors.¹⁸⁹ Likewise, pricing on both the Exit Term Loan and Exit 2L Bridge Loan could not include any

¹⁸⁵ Jamal 2018 Dep. 53:9-25.

¹⁸⁶ *Apollo’s Momentive Performance Materials Makes Chapter 11 Bankruptcy Filing; Move Follows Negotiations With Creditors on Debt Load*, Wall Street J. (Apr. 13, 2014).

¹⁸⁷ *S&P Lowers Momentive Performance Materials Ratings to ‘D’, Dow Jones Institutional News* (Apr. 16, 2014); *Research Update: Momentive Performance Materials Inc. ‘D’ Corporate Credit and Other Ratings Withdrawn*, Standard & Poor’s (Apr. 21, 2014); *Moody’s Withdraws Momentive Performance Materials’ Ratings Due to Bankruptcy Filing*, Moody’s Investors Service Press Release (Apr. 25, 2014).

¹⁸⁸ Press Release, Momentive Performance Materials Inc., Silicones and Quartz Producer Momentive Performance Materials Inc. Receives Court Authorization to Access Up to \$430 Million of DIP Financing on Interim Basis (Apr. 14, 2014).

¹⁸⁹ *Momentive Performance Materials Objections Filed*, BankruptcyData.com (June 6, 2014).

information relevant to pricing the Replacement Notes that occurred between June 14, 2014 and the Effective Date, including market reaction to news that holders of the Prepetition 1L Notes and Prepetition 1.5L Notes voted to reject the plan;¹⁹⁰ uncertainty surrounding the timing of bankruptcy proceedings;¹⁹¹ and the Bankruptcy Court's decisions with respect to the cramdown rate and make-whole provision claims.

94. Furthermore, between April 3, 2014 and the Effective Date, market conditions also changed, with the S&P equity index increasing by 5.2% in this period, and conditions in the chemicals industry also improving, as evidenced in a 1.3% increase in the S&P 500 chemicals index (see Exhibit 2). MPM also announced a new testing facility during this time.¹⁹² Given that MPM's chapter 11 process continued long after the pricing was set for the Exit Loans, with substantial new information being revealed during the chapter 11 process, the pricing of the Exit Loans was outdated by the time the Replacement Notes were issued.

95. Indeed, the fact that the commitment letter allowed the Exit Term Loan to reprice prior to being syndicated through a "flex" provision (see Section VII.B.2 above) indicates that the lenders themselves recognized that the interest rates on the Exit Term Loan could be updated to reflect new information revealed after the commitment letter was signed.¹⁹³ Because issuance

¹⁹⁰ Decl. of Peter Walsh on Behalf of Kurtzman Carson Consultants LLC regarding Voting and Tabulation of Ballots Accepting and Rejecting Joint Chapter 11 Plan of Reorganization for Momentive Performance Materials Inc. and Its Affiliated Debtors, dated Aug. 5, 2014 [ECF No. 789], at Ex. A.

¹⁹¹ *Momentive Restructuring Plan Fails to Gain Judge's Approval*, Dow Jones Inst. News (June 19, 2014); *Momentive Faces Critics as Bankruptcy-Exit Plan Goes Before Court*, Reuters (Aug. 19, 2014).

¹⁹² *Momentive Opens New Autoglazing Pilot Coating Facility in Germany*, Business Wire (June 10, 2014).

¹⁹³ "[C]ommitment papers...generally speaking, they are set up as a—as a sort of backstop, effectively, and then when you go to market you are going to try to get better terms And sometimes you give imprecise—indications that end up not reflecting what you can get done in the market." Deposition of William Q. Derrough, May 24, 2018, 100:15-101:15 (the "Derrough 2018 Deposition"). See also, Deposition of Brian Tramontozzi, June 7, 2018, 44:9-13, 82:12-16 (the "Tramontozzi Deposition").

and syndication of the Exit Term Loan never occurred, the interest rate on the facility was never re-priced to reflect the new information.¹⁹⁴

96. It is notable that the interest margin on the DIP Term Loan was flexed *downward* upon syndication of that loan.¹⁹⁵ Indeed, according to statistics produced by S&P, approximately 22% of all U.S. leveraged loans syndicated in 2014 flexed down (that is, priced at a lower interest rate) at syndication, compared to the rates stated in their commitment letters, with an average flex of approximately 35 basis points below the agreed interest rate on the loan.^{196,197} This underscores the fact that commitment rates may not be indicative of the terms investors are willing to pay in the market for the exit financing and that information relevant to pricing can evolve between the time of the commitment and issuance at market.

97. Second, the Exit Loans required the arrangers to commit to the exit financing and bear the risk that the commitments might not be used at the end of the bankruptcy. Specifically, the banks bidding on the DIP and exit financing were required to commit to provide more than one billion dollars in new debt up to six months down the line, while at the same time understanding that the funds under the commitment may not be used.¹⁹⁸ In other words, the firm commitment introduced additional risk into the bidding for the exit financing that could have

¹⁹⁴ I am aware of the J.P. Morgan request to flex up the terms of the Exit Term Loan upon syndication, as well as to update the proposed indicative rate on the Exit 2L Notes. As described in the deposition of William Derrough in May 2018, this request by JP Morgan was never responded to by MPM and was never market tested, as the Exit Term Loan was neither issued nor syndicated and the Exit 2L Notes were neither marketed nor issued. *See*, Momentive Public Side Lender Presentation, August 25, 2014 Draft, MPMR_AGSHF_0009340-382, at 346; Moelis and Apollo correspondence, MPMR_AGSHF_0000844-847, at 846; Derrough 2018 Dep. 73:16-75:8; Jamal 2018 Dep. 237:4-20.

¹⁹⁵ Derrough 2014 Dep. 21:6-22:5; *S&P LCD Institutional Pipeline*.

¹⁹⁶ *S&P LCD Institutional Pipeline*.

¹⁹⁷ “Oftentimes guidance is different from an outcome and I would be very clear to say that there is typically strategy associated with guidance to market to ensure a successful syndication and that guidance very well could mean the initial indication rate is higher than the expected market rate to ensure a large book is brought together and then in turn the end results could be very different than the initial guidance.” *See*, Tramontozzi Dep. 65:10-18.

¹⁹⁸ Derrough 2018 Dep. 43:12-20.

impacted the pricing of the Exit Loans at that time, negating their comparability to the Replacement Notes.

3. The Exit 2L Notes Are Not Comparable to the 1.5L Replacement Notes

98. As noted in Section IV, JP Morgan, Citi, and Credit Suisse agreed to assist MPM in the offering of the Exit 2L Notes, which would have been second lien secured notes with a principal amount of \$250 million to be issued upon emergence from bankruptcy and to finance payment to the holders of the 1.5L Prepetition Notes, had the holders accepted the Plan.¹⁹⁹ As discussed above, the Exit 2L Notes would be issued in lieu of the Exit 2L Bridge Loan.²⁰⁰

99. The three lenders submitted preliminary proposals for the Exit 2L Notes in April 2014.²⁰¹ The three proposals differed substantially. For example, Credit Suisse proposed unsecured notes, while JP Morgan and Citi proposed second lien secured notes.²⁰² Likewise, the indicative pricing of the proposals varied.²⁰³ Prior to the Bankruptcy Court's decision on the cramdown, it was still the Company's intention to issue the Exit 2L Notes, alongside the Exit Term Loan, if holders of the 1.5L Prepetition Notes and 1L Prepetition Notes, respectively, accepted the Plan.²⁰⁴ My understanding is that final terms for the Exit 2L Notes were never set and the notes were never marketed.²⁰⁵ The tentative nature of the un-marketed notes is underscored by the fact that the Exit 2L Bridge Loan was negotiated as an alternative to the Exit

¹⁹⁹ July 3 Derrough Decl. ¶¶ 9-10.

²⁰⁰ Jamal 2018 Dep. 253:15-20.

²⁰¹ Moelis correspondence, MPMR_AGSHF_0053466-471, at 468-470.

²⁰² See, *id.* at 468.

²⁰³ See, *id.*

²⁰⁴ Momentive Performance Materials Inc. Rating Agency Presentation, dated August 12, 2014, MPMR_AGSHF_0008531-571, at 556, 561.

²⁰⁵ Jamal 2018 Dep. 230:13-20, 290:15-294:21. See also, Tramontozzi Dep. 63:11-15, 64:19-22.

2L Notes in the event that an offering of the notes was unsuccessful.²⁰⁶ Thus, the Exit 2L Notes cannot be considered a comparable instrument to the 1.5L Replacement Notes because the notes were never marketed, and the terms for the proposed notes were only indicative.

100. Furthermore, the Exit 2L Notes cannot be used to assess whether there was a potential market for the 1.5L Replacement Notes because the proposed terms of the Exit 2L Notes differed from the terms of the 1.5L Replacement Notes. For example, under all three proposals the Exit 2L Notes would have had call protection in the form of both a no call period and a call premium thereafter.²⁰⁷

101. Finally, since the terms on the Exit 2L Notes were received in April 2014, by October 2014 the terms on the Exit 2L Notes were more than six months old and did not reflect the information that came out in the market regarding MPM and its industry between April 2014 and October 2014, as discussed above. Thus, the terms on the Exit 2L Notes were stale and not comparable to the issuance of the Replacement Notes at emergence from bankruptcy.²⁰⁸

4. Secondary Market Trading of the Replacement Notes Is Not a Comparable Reference Market

102. As discussed below, secondary market trading of the Replacement Notes cannot be used to assess whether there was a potential market for the Replacement Notes at issuance.

103. The risks and returns on the Replacement Notes reflect factors other than those associated with receiving promised coupon payments and repayment of principal. The potential to litigate on the issue of the make-whole claims likely influenced holders of the Prepetition 1L

²⁰⁶ July 3 Derrough Decl. ¶ 10.

²⁰⁷ MPMR_AGSHF_0008531-571, at 561; MPMR_AGSHF_0053466-471, at 469.

²⁰⁸ As noted above, a request by JP Morgan in August 2014 to update the indicative terms on the Exit Term Loan and 2L Exit Notes was never responded to by MPM and was never market tested, as neither of the facilities were issued or marketed. *See*, MPMR_AGSHF_0009340-382, at 346; MPMR_AGSHF_0000844-847, at 846; Derrough 2018 Dep. 73:16-75:8.

Notes and Prepetition 1.5L Notes to reject the Plan and receive Replacement Notes. Trading in the Replacement Notes thereafter has likely also reflected expectations of the outcomes of the litigation. Overall, these expectations change the incentive to hold the Replacement Notes from the incentives noteholders would have had if market expectations were based only on receiving the promised coupon payments and principal repayment on the Replacement Notes.

104. The Replacement Notes also represent notes that were “crammed down” on existing holders of the Prepetition 1L Notes and Prepetition 1.5L Notes after they rejected the Plan. Therefore, by definition, trading of the Replacement Notes does not represent activity from buyers and sellers who would buy these notes if they were offered at issuance in the market. Thus, trading of the Replacement Notes cannot be used to establish whether a market would have existed had the Replacement Notes been publicly issued instead of being crammed down.

C. Step 3: Assessing the Efficiency of Certain Markets

105. The third and final step in evaluating whether an efficient market exists for a debt instrument being issued upon emergence from bankruptcy is to assess whether the reference market, if it exists, is efficient.

106. As I discuss in Section V.B, tests of market efficiency fall broadly into three categories, measuring: (1) the speed at which the price of a financial instrument reacts to newly available information; (2) whether the price of a financial instrument fully reflects all relevant information; and (3) whether mispricing allows market participants to earn consistent economic profits.

107. In Section VI.B above, I described my search for instruments comparable to the Replacement Notes. The search yielded no U.S. corporate bonds issued around the time the Replacement Notes were issued in October 2014 that share the key features of the Replacement

Notes. Similarly, I found that differences in terms and context surrounding the Exit Loans, Exit 2L Notes, and secondary market trading of the Replacement Notes mean that these instruments do not constitute a reference market for the Replacement Notes. Since my search did not yield a reference market, there are no instruments whose efficiency can be assessed.

VII. Conclusion

108. As the first step in evaluating whether an efficient market exists for the Replacement Notes, I considered the key features of the Replacement Notes that would affect their relative risk profile and returns. The Replacement Notes exhibit certain characteristics related to risks arising from their credit profile, interest rate risk, industry risk, lack of call protection, and potential for illiquidity, as well as the fact that the notes were claims on a company exiting bankruptcy and were unrated by any credit rating agency for two months following their issuance.

109. As the second step in my analysis, I attempted to identify a reference market that captures these key features. Specifically, I attempted to find instruments that had similar risk exposure to the Replacement Notes among all U.S. high-yield corporate bonds traded around the time of issuance of the Replacement Notes. I also considered other potential reference points, including the Exit Loans, the Exit 2L Notes, and actual trading in the Replacement Notes following MPM's exit from bankruptcy. My search did not yield any traded instruments with features comparable to the Replacement Notes that would have been available at the time the Replacement Notes were issued and would constitute a market to test for efficiency.

110. Finally, had I found a reference market for the Replacement Notes, the third step of my analysis would have been to consider the efficiency of that market. Given my search did not yield any comparable instruments, however, there is no reference market for which market

efficiency can be assessed. Therefore, I conclude that no efficient market existed for the Replacement Notes at the time that such notes were issued.

Executed this 14th day of June, 2018

A handwritten signature in black ink, appearing to read "David C. Smith, Ph.D.", written in a cursive style.

David C. Smith, Ph. D

Comparison of Key Terms Exit Loans and Replacement Notes

| | Exit Term Loan | Exit 2L Bridge Loan | 1L Notes | 1.5L Notes |
|---------------------------|---|--|---|---|
| Instrument Type | Loan | Loan | Bond | Bond |
| Commitment Date | April 3, 2014 | June 13, 2014 | September 11, 2014 [1] | September 11, 2014 [1] |
| Amount (millions) | \$1,000 | \$250 | \$1,100 | \$250 |
| Lender | JP Morgan, Citigroup, and Credit Suisse [2] | JP Morgan, Citigroup, and Credit Suisse [2] | All holders of the Pre-Petition 1L Notes as of October 24, 2014 | All holders of the Pre-Petition 1.5L Notes as of October 24, 2014 |
| Tenor | 7 years | 1 year [3] | 7 years | 7.5 years |
| Interest Rate Type | Floating | Floating | Fixed | Fixed |
| Interest Rate | L + 4.00% / ABR +3.00% [4] 1.00% LIBOR floor | Q1: L + 6.00% Q2: L + 6.50% Q3: L + 7.00% Q4: L + 7.50% 1.00% LIBOR floor 9.00% interest rate cap [5] | 3.88% | 4.69% |
| Default Rate [6] | 2.00% | 2.00% | — | — |
| Amortization [7] | 1.00% | — | — | — |
| Call Premium | 1.00% [8] | — | — | — |

Source: \$250,000,000 Senior Second Lien Bridge Facility Commitment Letter, June 13, 2014, MPM1C_WFG_00034127; \$250,000,000 Senior Second Lien Secured Bridge Facility Fee Letter, June 13, 2014, MPMR_AGSHF_0004749; \$270,000,000 Senior Secured DIP and Exit Asset-Based Revolving Facility, \$300,000,000 Senior Secured DIP Term Loan Facility, \$1,000,000,000 Senior Secured Exit Term Loan Facility Commitment Letter, April 3, 2014, MPM1C_WFG_00032373; Findings of Fact, Conclusions of Law and Order (I) Confirming Joint Chapter 11 Plan of Reorganization for Momentive Performance Materials Inc. and Its Affiliated Debtors; and (II) Adjudicating Certain Adversary Proceedings *In re: MPM Silicones, LLC, et al.*, Case No. 14-22503 (September 11, 2014); First Lien Notes Indenture, October 24, 2014; 1.5 Lien Notes Indenture, October 24, 2014; Jamal 2018 Dep.

Note:

[1] The debtor's chapter 11 plan was confirmed on September 11, 2014. The notes were issued on October 24, 2014.

[2] The commitment letter authorized the debtor to add new lenders within 14 days; these lenders' commitments would ratably reduce the commitments of JP Morgan, Citigroup, and Credit Suisse. JP Morgan, Citigroup, and Credit Suisse were also authorized to syndicate all or part of their commitments to other banks or institutional lenders, subject to the reasonable consent of the debtor.

[3] After one year, "any Second Lien Bridge Loan that has not been previously repaid in full" would be converted into a senior secured "Second Lien Term Loan." On or following this conversion date, each lender could also elect to convert its "Second Lien Term Loan" in whole or in part into "Second Lien Exchange Notes" of an equal principal amount. Both the term loan and exchange notes would bear interest at a rate of 9.00%, mature in eight years, and have guarantees equivalent to the Exit 2L Bridge Loan.

[4] "L" stands for the Adjusted LIBOR, and "ABR" stands for Alternate Base Rate. The debtor could elect either the Alternate Base Rate or the Adjusted LIBOR. Adjusted LIBOR is "the higher of (a) the rate (adjusted for statutory reserve requirements for eurocurrency liabilities) for eurodollar deposits for the applicable interest period appearing on Reuters Screen LIBOR01 Page (or otherwise on the Reuters screen) or other applicable page or screen for loans denominated in U.S. dollars or (b) in the case of the Exit Term Loan Facility, 1.00% per annum." The debtor "may elect interest periods of 1, 2, 3 or 6 months (or, if agreed to by all relevant Lenders, 12 months or, if agreed to by the Agent, a shorter period)." The Alternate Base Rate is "the highest of (i) [sic] the rate of interest publicly announced by the Agent as its prime rate in effect at its principal office in New York City (the 'Prime Rate'), (b) the federal funds effective rate from time to time plus 0.50% per annum and (c) one-month Adjusted LIBOR plus 1.00% per annum." Regardless of the rate selected, after the debtor submitted financial statements for the first full fiscal quarter after the closing date, "interest rate margins under the Facility will be subject to a single reduction based upon a Net First Lien Leverage Ratio level to be agreed."

[5] "L" stands for the Adjusted LIBOR, which is "the higher of (x) the rate (adjusted for statutory reserve requirements for Eurocurrency liabilities) for Eurodollar deposits for a three-month period appearing on the LIBOR01 Page published by Reuters two business days prior to such date, as set at the beginning of each applicable interest period and (y) 1.00% per annum."

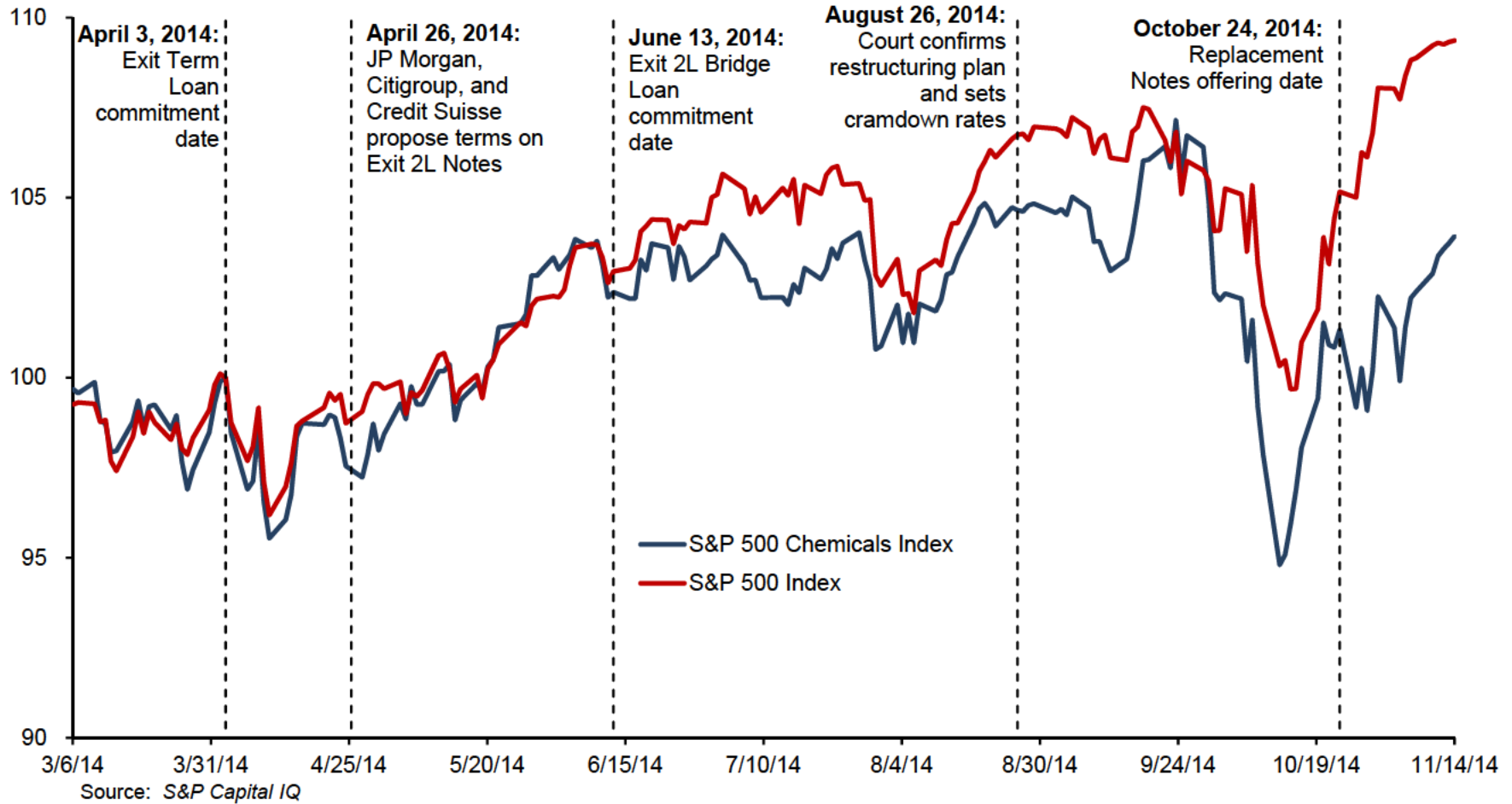
[6] The default rate is the additional interest to be paid on overdue principal and interest.

[7] Amortization is the annual rate at which the principal must be paid down.

[8] The premium applies if redemption occurs within the first 12 months if the debtor is able to refinance the loan on more favorable terms. Otherwise, the loan may be paid at any time at par plus accrued and unpaid interest.

S&P 500 Chemicals Index vs. S&P 500 Index 3/6/14 – 11/14/14

Index



Note: The two indices are adjusted for dividends and set equal to 100 on April 3, 2014.

DAVID C. SMITH
McIntire School of Commerce
University of Virginia
Rouss & Robertson Halls
East Lawn
P.O. Box 400173
Charlottesville, VA 22904-4173
D: (434) 243-2272, M: (434) 284-1806
Email: dcs8f@virginia.edu

EDUCATION

Ph.D. (Finance) Indiana University, 1993
B.S. University of Delaware, 1988

PRESENT EMPLOYMENT

Virginia Bankers Association Professor, University of Virginia, McIntire School of Commerce, 2015 -

Associate Dean for Center Development & Research, University of Virginia, McIntire School of Commerce, 2015-

PREVIOUS POSITIONS

Director, McIntire Center for Financial Innovation, 2007 – 2017

Professor, University of Virginia, McIntire School of Commerce, 2013-2015

Visiting Professor, University of Pennsylvania, The Wharton School, Fall 2013.

Associate Professor, University of Virginia, McIntire School of Commerce, 2005-2013

Visiting Associate Professor, University of Minnesota, Carlson School of Management, 2004-2005.

Economist, Board of Governors of the Federal Reserve System, Washington, D.C., 2000-2005

Visiting Assistant Professor, University of Florida, Gainesville, FL., 1998-2000

Assistant Professor, BI Norwegian School of Management, Oslo, Norway, 1993-1999

PROFESSIONAL AWARDS, RECOGNITION, AND PRIZES

2017 Second Place, Jensen Prize for the Best Papers Published in the *Journal of Financial Economics* in the Areas of Corporate Finance and Organizations,
2016

2014 Named an “extraordinary contributor” to University of Virginia
undergraduate experience by President Teresa A. Sullivan

- 2011 Order of the Claw & Dagger Annual Faculty Recognition Award, McIntire School of Commerce
- 2010 Seven Society Faculty Honoree for Outstanding Contributions to the University of Virginia
- 2009 PriceWaterhouseCoopers Grant for Professional Services Development
- 2009 Faculty Inductee, Beta Gamma Sigma
- 2009-10 Competitive research grant from the National Bureau of Economic Research to study financial restructurings of firms backed by private equity
- 2007-10 Competitive research grant from the Research Council of Norway's *Finansmarkedsfond*.
- 2007-09 Competitive research grant from the American Bankruptcy Institute for the study of the trading of distressed debt claims, 2007-2009.
- 2000 1st Runner up, Outstanding Paper of the Year Award at the *Journal of Financial Intermediation* for "What Determines the Number of Bank Relationships? Cross-Country Evidence"
- 1998 Nominee, Smith-Breeden Prize at the *Journal of Finance* for "The Conditional Performance of Insider Trades,"

EXTERNAL GRANTS

- 2009 National Bureau of Economic Research
- 2007 Research Council of Norway
- 2007 American Bankruptcy Institute

PROFESSIONAL AFFILIATIONS

- Coordinating Editor, *American Bankruptcy Institute Journal*, 2011 – 2015
- Associate Editor, *Journal of Financial Services Research*, 2007-2011
- Member, American Finance Association, 1993-
- Member, European Finance Association, 1993-
- Member, American Bankruptcy Institute, 2006-2016

RESEARCH PAPERS UNDER SUBMISSION

- "Creditor Conflict and the Efficiency of Corporate Reorganization," with Mark Jenkins.

“Private Equity Sponsors and the Resolution of Financial Distress,” with Edith Hotchkiss and Per Strömberg.

PUBLICATIONS

Debt-for-Control Investing in Asia: Nine Entertainment Company Business Case, with Grant Fleming and Anna Von Reibnitz, Darden Business Publishing, July 2017.

“The Ownership and Trading of Debt Claims in Chapter 11 Restructurings,” with Victoria Ivashina and Ben Iverson, *Journal of Financial Economics*, February 2016, pp 316-335.

Cengage Learning: Can Apax Partners Salvage This Buyout? Business Case, with Susan Chaplinsky and Felicia Marston, Darden Business Publishing, February 2015.

“What Happens in Nevada? Self-Selecting into Lax Law,” with Michal Barzuza. *Review of Financial Studies*, December 2014, 27(12), 3593-3627.

“Some Facts and Figures on Secured Lending,” with Greg Nini, *2013 LSTA Chronicle*.

The Restructuring of Danfurn LLC Business case, with Larry Halperin and Michael Friedman, Darden Business Publishing, January 2013.

“U.S. International Equity Investment,” with John Ammer, Sarah Holland, and Francis Warnock, *Journal of Accounting Research*, December 2012, 50(5), 1109-1139.

“Creditor Control Rights, Corporate Governance, and Firm Value,” with Greg Nini and Amir Sufi, *Review of Financial Studies*, June 2012, 25(6), 1713-1761.

“Claims Trading Promotes Ownership Concentration,” with Tinamarie Feil, *American Bankruptcy Institute Journal*, April 2011, 30-3, 1.

“Creditor Control Rights and Firm Investment Policy,” with Greg Nini and Amir Sufi, *Journal of Financial Economics*, June 2009, pp. 400-420.

“On the Sequencing of Projects, Reputation Building, and Relationship Finance,” with Dominik Egli and Steven Ongena, *Finance Research Letters*, March 2006, 23-39.

“Maximizing the Value of Distressed Assets: Bankruptcy Law and the Efficient Reorganization of Firms,” with Per Strömberg, in *Systemic Financial Distress: Containment and Resolution*, Patrick Holohan and Luc Laeven editors, Cambridge University Press, 2005.

“The Impact of Bank Consolidation on Commercial Borrower Welfare,” with Jason Karceski and Steven Ongena, *Journal of Finance*, August 2005, 2043-2082.

“Loans to Japanese Borrowers,” *Journal of the Japanese and International Economies*, September 2003, 283-304.

“Global Integration in the Banking Industry,” with Allen Berger, *Federal Reserve Bulletin*, November 2003, 451-460.

“To What Extent Will the Banking Industry be Globalized? A Study of Bank Nationality and Reach in 20 European Nations,” with Allen Berger, Qinglei Dai and Steven Ongena, *Journal of Banking and Finance*, February 2003, 383-415.

“Firms and Their Distressed Banks: Lessons from the Norwegian Banking Crisis (1988 - 1991),” with Steven Ongena and Dag Michalsen, *Journal of Financial Economics*, January 2003, pp. 81-112.

“The Duration of Bank Relationships,” with Steven Ongena, *Journal of Financial Economics*, September 2001, pp. 449-475.

“Are Banks Still Special? New Evidence on their Role in the Capital-Raising Process,” with Christopher James, *Journal of Applied Corporate Finance*, Spring 2000, pp. 52-63.

“Bank Relationships: A Review,” with Steven Ongena, in *The Performance of Financial Institutions*, 2000, P. Harker and S.A. Zenios, editors, Cambridge University Press, pp. 221-258.

“What Determines the Number of Bank Relationships? Cross-Country Evidence,” with Steven Ongena, *Journal of Financial Intermediation*, January 2000, pp. 26-56.

“Finite Sample Properties of Tests of the Epstein-Zin Asset Pricing Model,” *Journal of Econometrics*, November 1999, pp. 113-148.

“The Elasticity of Interest Rate Volatility - Chan, Karolyi, Longstaff and Sanders Revisited,” with Robert Bliss, *Journal of Risk*, Fall 1998, pp. 21-46.

“The Conditional Performance of Insider Trades,” with B. Espen Eckbo, *Journal of Finance*, April 1998, pp. 467-498.

“Quality and Duration of Bank Relationships,” with Steven Ongena in *Global Cash Management in Europe*, D. F Birks, editor, MacMillan Press, 1998.

6/7/2018

DAVID C. SMITH
Testifying Experience

U.S. v. David R. Gibson, et al., United States District Court District of Delaware, November 2017.

Stark Master Fund Ltd. and Stark Global Opportunities Master Fund Ltd v. Credit Suisse Securities (USA) LLC, et al., United States District Court Eastern District of Wisconsin, August 2017.

Elliot D. Levin, as Chapter 7 Trustee of Irwin Financial Corporation, v. William I. Miller, Gregory F. Ehlinger, and Thomas D. Washburn, United States District Court Southern District of Indiana, July 2016.

Frederick Barton Danner v. Caesars Entertainment Corporation and Caesars Entertainment Operating Company, Inc., Meehancombs et al. v. Caesars Entertainment Corporation and Caesars Entertainment Operating Company, Inc., BOKF v. Caesars Entertainment Corporation, UMB Bank et al. v. Caesars Entertainment Corporation, United States District Court Southern District of New York, February 2016.

SEC v. Laurie K. Bebo, Securities and Exchange Commission Administrative Proceeding, June 2015.

SEC v. Heart Tronics, Inc., et al., United States District Court Central District of California, March 2015.

Litigation in American Arbitration Association Court in Phoenix, Arizona (parties confidential under protective order), September 2014.

Phyllis Johnson, et al., v. Meriter Health Services Employee Retirement Plan, and Meriter Health Services, Inc., United States District Court Western District of Wisconsin, May 2014.

Documents Considered

Expert Report of David C. Smith, Ph.D.

Pleadings and Legal Documents

- \$1,100,000,000 3.88% First-Priority Senior Secured Notes due 2021 Indenture dated October 24, 2014
- \$1,100,000,000 8.875% First-Priority Senior Secured Notes due 2020 Indenture dated October 25, 2012
- \$250,000,000 10% Senior Secured Notes due 2020 Indenture dated May 25, 2012
- \$250,000,000 4.69% Second-Priority Senior Secured Notes due 2022 Indenture dated October 24, 2014
- *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988)
- *Cammer v. Bloom*, 711 F. Supp. 1264 (D.N.J. 1989)
- Corrected and Modified Bench Ruling on Confirmation of Debtors' Joint Chapter Plan of Reorganization for Momentive Performance Materials Inc. and Its Affiliated Debtors, dated Sept. 9, 2014 [ECF No. 979]
- Decl. of Peter Walsh on Behalf of Kurtzman Carson Consultants LLC regarding Voting and Tabulation of Ballots Accepting and Rejecting Joint Chapter 11 Plan of Reorganization for Momentive Performance Materials Inc. and Its Affiliated Debtors, dated Aug. 5, 2014 [ECF No. 789]
- Decl. of William H. Carter, Chief Financial Officer of Momentive Performance Materials Inc., in Support of Chapter 11 Petitions and First Day Pleadings, dated Apr. 13, 2014 [ECF No. 16]
- Decl. of William Q. Derrough In Supp. of Debtors' Mot. For An Order Authorizing The Debtors To (A) Enter Into A Bridge Facility Commitment Letter And Related Commitment Documents, (B) Enter Into An Engagement Letter Related To A Second Lien Notes Offering, and (C) Pay Fees, Costs and Expenses In Connection Therewith, dated July 3, 2014 [ECF No. 606]
- Decl. of William Q. Derrough In Supp. of Debtors' Mot. For Interim and Final Orders Under 11 U.S.C. §§ 105, 361, 362, 363(c), 363(d), 364(c), 364(d), 364(e) and 507 and Fed. R. Bankr. P. 2002, 4001 and 9014: (I) Authorizing the Debtors to Obtain Postpetition Financing; (II) Authorizing the Debtors to Use Cash Collateral; (III) Granting Adequate Protection to Prepetition Secured Lenders; and (IV) Scheduling a Final Hearing Pursuant to Bankruptcy Rules 2002, 4001 and 9014, dated Apr. 13, 2014 [ECF No. 14]
- *Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd.*, 177 A.3d 1 (Del. Sup. Ct. 2017)
- Disclosure Statement For Joint Chapter 11 Plan of Reorganization For Momentive Performance Materials Inc. and Its Affiliated Debtors, dated June 23, 2014 [ECF No. 516]
- Findings of Fact, Conclusions of Law And Order (I) Confirming Joint Chapter 11 Plan Of Reorganization For Momentive Performance Materials Inc. and Its Affiliated Debtors; And (II) Adjudicating Certain Adversary Proceedings, dated Sept. 11, 2014 [ECF No. 1001]
- *In re Bebo*, No. 3-16293 (SEC 2015)
- *In re IPO Sec. Litig.*, 471 F.3d 24 (2d Cir. 2006)
- *In re MPM Silicones, LLC*, 874 F.3d 787 (2d Cir. Oct. 20, 2017)
- Joint Chapter 11 Plan of Reorganization for Momentive Performance Materials Inc. and its Affiliated Debtors, dated June 23, 2014 [ECF No. 515]
- *Stark Master Fund Ltd. v. Credit Suisse Sec. LLC*, No. 2:14-cv-00689 (E.D. Wis. 2017)
- Transcript of Hearing Held 03/09/2018 (Bankr. S.D.N.Y.) [ECF no. 1633]

Documents Considered

Expert Report of David C. Smith, Ph.D.

- Trust Indenture Act of 1939, 15 U.S.C. § 77aaa (1939)
- *United States v. Gibson*, No. 15-23-RGA (D. Del. 2017)

Depositions

- Deposition of Brian Tramontozzi, June 7, 2018
- Deposition of William Q. Derrough, May 24, 2018 and exhibits
- Deposition of William Q. Derrough, Sept. 8, 2014
- Deposition of Zul Jamal, July 22, 2014
- Deposition of Zul Jamal, May 22, 2018 and exhibits

Bates Stamped Documents

- \$250,000,000 Senior Second Lien Secured Bridge Facility Commitment Letter, dated June 13, 2014, MPMR_AGSHF_0004712-748
- \$250,000,000 Senior Second Lien Secured Bridge Facility Fee Letter, dated June 13, 2014, MPMR_AGSHF_0004749-760
- \$270,000,000 Senior Secured DIP and Exit Asset-Based Revolving Facility, \$300,000,000 Senior Secured DIP Term Loan Facility, and \$1,000,000,000 Senior Secured Exit Term Loan Facility Fee Letter, dated April 3, 2014, MPM1C_WFG_00032442-452
- \$270,000,000 Senior Secured DIP and Exit Asset-Based Revolving Facility, \$300,000,000 Senior Secured DIP Term Loan Facility, and \$1,000,000,000 Senior Secured Exit Term Loan Facility Commitment Letter, dated April 3, 2014, MPM1C_WFG_00032373-441
- Correspondence from Citi to Moelis, MPMR_AGSHF_0030686-699
- Moelis and Apollo correspondence, MPMR_AGSHF_0000844-847
- Moelis correspondence, MPMR_AGSHF_0053466-471
- Momentive Performance Materials Inc. Rating Agency Presentation, dated August 12, 2014, MPMR_AGSHF_0008531-571
- Momentive Public Side Lender Presentation, August 25, 2014 Draft, MPMR_AGSHF_0009340-382

Analyst Reports, Company Releases, and News Articles

- *Apollo's Momentive Performance Materials Makes Chapter 11 Bankruptcy Filing; Move Follows Negotiations With Creditors on Debt Load*, Wall Street J. (Apr. 13, 2014)
- *Momentive Faces Critics as Bankruptcy-Exit Plan Goes Before Court*, Reuters (Aug. 19, 2014)
- *Momentive Opens New Autoglazing Pilot Coating Facility in Germany*, Business Wire (June 10, 2014)
- *Momentive Performance Materials Inc. Assigned 'B-' Corporate Credit Rating, Stable Outlook; Debt Ratings Also Assigned*, Standard & Poor's (Dec. 19, 2014)
- Momentive Performance Materials Inc., 2014 Annual Report (Form 10-K), (Mar. 30, 2015)
- *Momentive Performance Materials Objections Filed*, BankruptcyData.com (June 6, 2014)

Documents Considered

Expert Report of David C. Smith, Ph.D.

- *Momentive Restructuring Plan Fails to Gain Judge's Approval*, Dow Jones Inst. News (June 19, 2014)
- *Moody's Assigns B3 to Momentive Performance's First-Lien Notes; Outlook Stable*, Moody's (Jan. 16, 2015)
- *Moody's Withdraws Momentive Performance Materials' Ratings Due to Bankruptcy Filing*, Moody's Investors Service Press Release (Apr. 25, 2014)
- Press Release, Momentive Performance Materials Inc., Silicones and Quartz Producer Momentive Performance Materials Inc. Receives Court Authorization to Access Up to \$430 Million of DIP Financing on Interim Basis (Apr. 14, 2014)
- Press Release, Momentive Performance Materials Inc., Silicones and Quartz Producer Momentive Performance Materials Inc., Completes Balance Sheet Restructuring And Emerges From Chapter 11 (Oct. 24, 2014)
- *Research Update: Momentive Performance Materials Inc. 'D' Corporate Credit and Other Ratings Withdrawn*, Standard & Poor's (Apr. 21, 2014)
- *S&P Lowers Momentive Performance Materials Ratings to 'D'*, Dow Jones Institutional News (Apr. 16, 2014)

Academic Literature and Books

- A. Shleifer & R. Vishny, *Fire Sales in Finance and Macroeconomics*, 25 J. of Econ. Perspectives 29 (2011)
- A. Shleifer & R. Vishny, *The Limits of Arbitrage*, 52 J. of Fin. 35 (1997)
- A. Shleifer, *Inefficient Markets* (2000)
- A. Sufi, *Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans*, 62 J. of Fin. 629 (2007)
- A. Taylor & A. Sansone, *The Handbook of Loan Syndications & Trading* (1st ed, McGraw Hill 2008)
- C. James, *Some Evidence on the Uniqueness of Bank Loans*, 19 J. of Fin. Econ. 217 (1987)
- C. Smith, *A Perspective on Accounting-Based Debt Covenant Violations*, 68 Acct. Rev. 289 (1993)
- D. Bradley et al., *The Quiet Period Goes Out with a Bang*, 58 J. of Fin. 1 (2003)
- D. Denis & J. Wang, *Debt Renegotiations and Creditor Control Rights*, 113 J. of Fin. Econ. 348 (2014)
- D. Diamond & R. Verrecchia, *Disclosure, Liquidity, and the Cost of Capital*, 46 J. of Fin. 1325 (1991)
- D. Diamond, *Financial Intermediation and Delegated Monitoring*, 51 Rev. of Econ. Studies 393 (1984)
- D. Ross, *The 'Dominant Bank Effect': How High Lender Reputation Affects the Information Content and Terms of Bank Loans*, 23 Rev. of Fin. Studies 2730 (2010)
- E. Elton et al., *Factors Affecting the Valuation of Corporate Bonds*, 28 J. of Banking and Fin. 2747 (2004)
- E. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. of Fin. 383 (1970)
- E. Fama, *What's Different about Banks?*, 15 J. of Monetary Econ. 29 (1985)

Documents Considered

Expert Report of David C. Smith, Ph.D.

- F. Fabozzi et al., *Active Loan Trading*, (2018) (Working Paper)
- F. Fabozzi, *The Handbook of Fixed Income Securities* (8th ed. 2012)
- G. Huberman & T. Regev, *Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar*, 56 J. of Fin. 387 (2001)
- G. Nini, D. Smith & A. Sufi, *Creditor Control Rights and Firm Investment Policy*, 92 J. of Fin. Econ. 400 (2009)
- G. Nini, D. Smith & A. Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, 25 Rev. of Fin. Studies 1713 (2012)
- H. Bessembinder & W. Maxwell, *Markets: Transparency and the Corporate Bond Market*, 22 J. of Econ. Perspectives 217 (2008)
- H. Bessembinder et al., *Capital Commitment and Illiquidity in Corporate Bonds*, J. of Fin., forthcoming, 1 (2018)
- H. Hong & J. Stein, *Disagreement and the Stock Market*, 21 J. of Econ. Perspectives 109 (2007)
- I. Goldstein & L. Yang, *Information Disclosure in Financial Markets*, 9 Annual Rev. of Fin. Econ. 101 (2017)
- J. Dick-Nielsen et al., *Corporate Bond Liquidity Before and After the Onset of the Subprime Crisis*, 103 J. of Fin. Econ. 471 (2012)
- J. Hasbrouck, *Empirical Market Microstructure: The Institutions, Economics, and Econometrics of Securities Trading* (2007)
- J. Murfin & M. Petersen, *Loans on Sale: Credit Market Seasonality, Borrower Need, and Lender Rents*, 121 J. of Fin. Econ. 300 (2016)
- J. Ritter, *The Long-Run Performance of Initial Public Offerings*, 46 J. of Fin. 3 (1991)
- L. Field & G. Hanka, *The Expiration of IPO Share Lockups*, 56 J. of Fin. 471 (2001)
- M. Jensen, *Some Anomalous Evidence Regarding Market Efficiency*, 6 J. of Fin. Econ. 95 (1978)
- M. Roberts & A. Sufi, *Renegotiation of Financial Contracts: Evidence from Private Credit Agreements*, 93 J. of Fin. Econ. 159 (2009)
- M. Roberts, *The Role of Dynamic Renegotiation and Asymmetric Information in Financial Contracting*, 116 J. of Fin. Econ. 61 (2015)
- N. Cai et al., *Underpricing in the Corporate Bond Market*, 20 Rev. of Fin. Studies 2021 (2007)
- N. Chopra et al., *Measuring Abnormal Performance: Do Stocks Overreact?*, 31 J. of Fin. Econ. 235 (1992)
- N. Jegadeesh & S. Titman, *Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency*, 48 J. of Fin. 65 (1993)
- O. Lamont & R. Thaler, *Anomalies: The Law of One Price in Financial Markets*, 17 J. of Econ. Perspectives 191 (2003)
- P. Feldhütter, *The Same Bond at Different Prices: Identifying Search Frictions and Selling Pressures*, 25 Rev. of Fin. Studies 1155 (2012)
- P. Saffi & K. Sigurdsson, *Price Efficiency and Short Selling*, 24 Rev. of Fin. Studies 821 (2011)
- P. Tetlock, *All the News That's Fit to Reprint: Do Investors React to Stale Information?*, 24 Rev. of Fin. Studies 1481 (2011)

Documents Considered

Expert Report of David C. Smith, Ph.D.

- R. Rajan, *Insiders and Outsiders: The Choice between Informed and Arm's-Length Debt*, 47 J. of Fin. 1367 (1992)
- S. Bharath, et al., *So What Do I Get? The Bank's View of Lending Relationships*, 85 J. of Fin. Econ. 368 (2007)
- S. Gilson, et al., *Valuation of Bankrupt Firms*, 13 Rev. of Fin. Studies 43 (2000)
- S. Schwarcz, & G. Sergi, *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 Ala. L. Rev. 1037 (2008)
- T. Chordia et al., *Liquidity and Market Efficiency*, 87 J. of Fin. Econ. 249 (2008)
- V. Ivashina, B. Iverson & D. Smith, *The Ownership and Trading of Debt Claims in Chapter 11 Restructurings*, 119 J. of Fin. Econ. 316 (2016)
- W. Maxwell & M. Shenkman, *Leveraged Financial Markets* (1st ed. 2010)
- Y. Amihud et al., *A New Governance Structure for Corporate Bonds*, 51 Stanford L. Rev. 447 (1999)
- Z. Bodie, et al., *Investments* (10th ed. 2013)

Websites

- *2017 Secondary Trading & Settlement Summary: A Record Year for Trading*, Loan Syndications & Trad. Ass'n (Jan. 30, 2018), <https://www.lsta.org/news-and-resources/news/2017-secondary-trading-and-settlement-summary-a-record-year-for-trading>
- *About DTCC*, Depository Trust and Clearing Corp. (last visited June 11, 2018), <http://www.dtcc.com/about/businesses-and-subsiidiaries/dtc>
- *Best Execution*, SEC (May 9, 2011), <https://www.sec.gov/fast-answers/answersbestexhtm.html>
- *CBOE EDGX U.S. Equities Exchange Fee Schedule*, CBOE Global Mkts., Inc. (May 1, 2018), https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/
- *Corporate Bonds*, FINRA (last visited June 11, 2018), <http://www.finra.org/investors/corporate-bonds>
- D. Gallagher, *Remarks Regarding the Fixed Income Markets at the Conference on Financial Markets Quality*, SEC (Sept. 19, 2012), <https://www.sec.gov/news/speech/2012-spch091912dmghtm>
- *Equity Market Surveillance Today and the Path Ahead*, FINRA (Sept. 20, 2017), <https://www.finra.org/newsroom/speeches/092017-equity-market-surveillance-today-and-path-ahead>
- *Fact Sheet: Eliminating the Prohibition on General Solicitation and General Advertising in Certain Offerings*, SEC (July 2, 2013), <https://www.sec.gov/opa/press-release-2012-170-related-materials>
- *FAQs: How Issuers Work with DTC*, Depository Trust and Clearing Corp. (last visited June 11, 2018), <http://www.dtcc.com/settlement-and-asset-services/issuer-services/how-issuers-work-with-dtc>
- *FINRA Brings 144A Corporate Debt Transactions into the Light*, FINRA (June 30, 2014), <http://www.finra.org/newsroom/2014/finra-brings-144a-corporate-debt-transactions-light>

Documents Considered

Expert Report of David C. Smith, Ph.D.

- *Global Syndicated League Tables FY 2017*, Bloomberg (2017),
<https://data.bloomberglp.com/professional/sites/10/Bloombergs-FY-2017-Global-Syndicated-Loans-League-tables.pdf>
- J. Clayton, *Remarks at the Equity Market Structure Symposium Sponsored by the University of Chicago and the STA Foundation*, SEC (Apr. 10, 2018),
<https://www.sec.gov/news/speech/speech-clayton-2018-04-10>
- *Registration under the Securities Act of 1933*, SEC (Sept. 2, 2011),
<https://www.sec.gov/fast-answers/answersregis33htm.html>
- *S&P Capital IQ: The Essential Platform For Financial Professionals*, S&P Global Market Intelligence (last visited June 11, 2018),
<https://www.spglobal.com/marketintelligence/en/solutions/sp-capital-iq-platform>
- *SEC Shortens Settlement Cycle for Securities Trades*, Reuters (Mar. 22, 2017),
<https://www.reuters.com/article/us-usa-sec-settlement-idUSKBN16T1SW>
- *The Laws That Govern the Securities Industry*, SEC (Oct. 1, 2013),
<https://www.sec.gov/answers/about-lawsshtml.html#secexact1934>
- *Trade Reporting and Compliance Engine (TRACE)*, FINRA (last visited June 11, 2018),
<http://www.finra.org/industry/trace>

Data Sources

- *Bloomberg*
- *Capital IQ*
- *S&P LCD Institutional Pipeline*